IT Security Procedural Guide:
Managing Enterprise
Cybersecurity Risk
CIO-IT Security-06-30

Revision 20

May 18, 2021

Office of the Chief Information Security Officer

VERSION HISTORY/CHANGE RECORD

Change Number	Person Posting Change	Change	Reason for Change	Page Number of Change
		Revision 1 – March 22, 2006		
1	Bo Berlas	Included the OWASP Web Application Penetration Checklist and the OWASP Testing Project documents as embedded objects into Appendix C – GSA Risk Assessment Security Requirements.	To provide a usable checklist for testing the OWASP Top Ten Vulnerabilities.	14
		Revision 2 – February 13, 2007		
1	Bo Berlas	Various updates to reflect changes in A&A process	FINAL publishing of NIST 800-53 on 12/2006	4-10
2	Bo Berlas	Updated Appendix A: Risk Assessment Report Format	RA and SA are now combined into a single RA/SA report.	11
3	Bo Berlas	Updated Appendix B: GSA Security Assessment Test Procedures	Updated Assessment test procedures based on FINAL publishing of NIST 800-53 on 12/2006	15
4	Bo Berlas	Updated Appendix C: Plan of Action and Milestone (POA&M) Template	Attached new POA&M template for FY 2007.	16
5	Bo Berlas	Updated Appendix D: Risk Assessment / Security Assessment Plan Template	Updated assessment plan template to reflect combining of RA and SA reports.	17
		Revision 3 – March 20, 2007		
1	Bo Berlas	Changed reference to OWASP Top Ten from 2007 Release Candidate 1 back to the 2004 Update.	OWASP Top Ten, 2007 RC1 has not been finalized. GSA will adopt the OWASP Top Ten, 2007 Update upon final publication.	6
2	Bo Berlas	New database scanning requirement.	App Detective or similar tool should be used to test database security configurations.	7
		Revision 4 – October 16, 2007		
1	Bo Berlas	Updated policy reference.	GSA IT Security Policy was updated June 2007.	6
2	Bo Berlas	Changed reference to OWASP Top Ten from the 2004 Update to the current 2007 Update.	The 2007 Top Ten lists current web application vulnerabilities.	7
3	Bo Berlas	Replaced the FY 2007 POA&M Reporting Template with the FY 2008 template.	New OMB Quarterly POA&M Reporting Requirements	17
		Revision 5 – July 15, 2010		
1	Bo Berlas	Update the A&A process to be consistent with NIST 300-37 and the Risk Management Framework	Updates required to ensure agency compliance.	Various
2	Bo Berlas	Inserted Roles and Responsibilities	Identify A&A Roles and	3

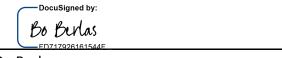| Change Number	Person Posting Change	Change	Reason for Change	Page Number of Change
		relating to A&A from the GSA IT Security Policy	Responsibilities	
3	Bo Berlas	New implementation guidance for NIST 800-53 controls.	To facilitate implementation of required controls	25
4	Bo Berlas	New NIST 800-53 assessment test cases	Required to facilitate assessment of NIST 800-53 controls	Appendix C
5	Bo Berlas	New OCISO A&A Review SOP	Documents the process for submission of A&A packages to the OCISO and the detailed procedural steps performed by the OCISO to verify A&A compliance.	Appendix E
6	Bo Berlas	New guidance for A&A of Minor Systems	To facilitate assessment of minor systems.	22
		Revision 6 – December 16, 2010		
1	Bo Berlas	Updated references for Certification, Accreditation, and Certification and Accreditation (C&A) to Assessment, Authorization, and Assessment and Authorization (A&A), respectively.	To be consistent with the current terminology in NIST 800-37.	Throughout
2	Bo Berlas	Inserted guidance for forming sections 1-10 of the SSP for cloud computing system SSPs.	To address cloud specific security challenges.	12
		Revision 7 – May 31, 2011		
1	Bo Berlas	Updated references to A&A to security authorization process and authorization package or A&A package to security authorization package.	To be consistent with the current terminology in NIST 800-37.	Throughout
2	Bo Berlas	Inserted guidance for review of minimal impact SaaS solutions.	To document required review activities for such systems.	25
3	Bo Berlas	Updated Appendix E to include a revised OCISO Security Authorization Package Review SOP.	To reflect current version of the SOP.	48
		Revision 8 – November 25, 2015		
1	Lewis/ Sitcharing	Changes made throughout the document to reflect NIST and GSA requirements	Updated to reflect and implement the most current NIST 800-53-Rev4 and GSA requirements	Various
		Revision 9 – May 19, 2016		
1	Wilson/ Klemens	Restructuring of the document, modifications to specific process descriptions.	Updated to reflect current acceptance of risk process and rename Minor Application process to Subsystem process and	Various

Change Number	Person Posting Change	Change	Reason for Change	Page Number of Change
			revise its description. Restructuring and editing throughout.	
Revision 10 – April 10, 2017				
1	Desai/ Klemens	Clarifying system definitions and penetration testing requirements.	Included definitions of Federal and Contractor systems. Clarified when systems are required to have penetration tests as part of their assessment.	Sections 1.2, 4.1.7
2	Klemens	Update and edit document.	Updating of hyperlinks, editing of document, updates to align with other GSA documents.	Throughout
Revision 11 – October 10, 2017				
1	Dean/ Feliksa/ Klemens	Update hyperlinks and minor editorial changes.	Hyperlinks were updated so outdated, superseded documents would not be provided. Minor edits to clarify current GSA processes.	Throughout
Revision 12 – January 17, 2018				
1	Feliksa/ Klemens	Integrate the NIST Cybersecurity Framework (CSF), update A&A process and POA&M information, remove Cloud Controls.	Comply with Executive Order 13800, update processes based on revised procedures, streamline document by moving cloud controls.	Throughout
Revision 13 – May 14, 2018				
1	Klemens	Added a provision for piloting new A&A processes. Updated Lightweight Security Authorization Process, MiSaaS, CSF content.	Allows a new A&A process to be piloted/tested. Align with revised GSA and NIST guidance.	Sections 1, 3.2.2, 3.2.6, Appendix A, Appendix C
Revision 14 – February 1, 2019				
1	Klemens	Updated information on compliance/configuration scans. Updated hyperlink references. Added Program and Project Manager roles. Removed CTW as attachment to SSP.	Clarify GSA policy and guidance on compliance to hardening guides. Update to new format and style for hyperlinks. Added roles added to 2100.1. Data in the CTW is available in the SSP Template and Control Summary Table.	Throughout
2	Klemens	Added information concerning Binding Operational Directives (BOD) requirements and clarified encryption of data at rest requirements.	Clarify GSA policy and guidance on BOD and encryption requirements.	10, 12, 14, 38, 47
3	Klemens	Updated penetration testing requirements. Editing to align with current format, style, structure.	Provide the latest guidance on penetration testing requirements	34, 38, various

		Revision 15 – July 25, 2019		
1	Klemens	Updated SC-28 (1) control applicability and parameter. Revised references to Binding Operational Directives (BODs) to Cybersecurity Directives which include BODs and Emergency Directives. Revised parameter for SI-2(3).	Updated GSA parameters and guidance on NIST controls.	Multiple
		Revision 16 – October 3, 2019		
1	Dean/Klemens	Revised to include/update information on Showstopper Controls, configuration compliance metric, vulnerability remediation timeframes, reference additional procedural guides, and add Certification Letter as part of security authorization process.	Updated to reflect additional Federal and GSA guidance and process changes.	Multiple
2	Klemens	Added PL-8 and SA-8 to the table of GSA required controls, removed LATO SSP/SAR/Test Cases from LATO process description and appendices.	Updated to reflect additional Federal and GSA guidance and process changes.	Multiple
		Revision 17 – July 1, 2020		
1	Dean/Klemens	Revisions include: • Retitled to "Managing Enterprise Cybersecurity Risk" • Included the GSA Risk Executive Function role • Added a requirement for independent assessment of common controls • Added Approval to Use (ATU) and GSA processes for ATUs • Added Leveraged FedRAMP Authorization to Operate (ATO) process • Updated ATO and control sections	Updated to reflect additional Federal and GSA guidance and process changes.	Multiple
		Revision 18 – May 18, 2021		
1	Desai/Klemens	Revisions include: • Added guidance on implementing, documenting, and assessing Cloud Service Provider (CSP) customer responsibilities. • Updated Encryption of Sensitive Data information in Showstopper table.	Updated to reflect GSA guidance regarding customer responsibility controls.	Sections 5.3, 5.4, and 13
		Revision 19 – April 15, 2021		
1	Desai/Klemens/ Dean	Revisions include: • Incorporate NIST SP 800-37,	Incorporate updated NIST publications and GSA	Throughout

Change Number	Person Posting Change	Change	Reason for Change	Page Number of Change
		Revision 2 • Incorporate NIST SP 800-53, Revision 5. • Update existing GSA A&A process descriptions. • Add Protecting CUI in Nonfederal Systems Assessment process. • Incorporate Clean ATO process, including update to A&A Package approval. • Add guidance on the use operational/live date in preproduction systems. • Incorporate Management Implementation Plan processes. • Update SAR and POA&M processes. • Update the FedRAMP XaaS section to include the requirement for assessments.	processes	
		Revision 20 – May 18, 2021		
1	Desai/Klemens	Revisions include: • Added SC-8/SC-8(1) controls to Showstoppers and GSA additional controls. • Added CISO and AO approval required before pursuing a 90-day LATO. • Added IPv6 transition requirement. • Revised scope to clarify requirement to adhere to all GSA security guides and requirements. • Clarification on determining the appropriate ATU/ATO process to follow.	Update showstopper controls, approval requirement to use 9-day LATO, IPv6 transition requirements, revise scope section, clarify identification of appropriate process for systems.	Multiple

Approval

IT Security Procedural Guide: Managing Enterprise Cybersecurity Risk, CIO-IT Security-06-30, Revision 20, is hereby approved for distribution.

DocuSigned by:

Bo Berlas

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Bo Berlas
GSA Chief Information Security Officer

Contact: GSA Office of the Chief Information Security Officer (OCISO), Policy and Compliance Division (ISP), at ispcompliance@gsa.gov.

Table of Contents

NOTE: Hyperlinks in this guide are provided as follows:

- Appendix B - Consolidated List of Guidance, Policies, Procedures, Templates. This appendix contains hyperlinks to Federal Regulations/Guidance and to GSA web pages containing GSA policies, guides, and forms/templates.
- In running text - Hyperlinks will be provided if they link to a location within this document (i.e., a different section or an appendix). Hyperlinks will be provided for external sources unless the hyperlink is to a web page or document listed in Appendix B. For example, Google Forms, Google Docs, and websites will have links.
- It may be necessary to copy and paste hyperlinks in this document (Right-Click, Select Copy Hyperlink) into a web browser rather than using Ctrl-Click to access them.

1   Introduction

The General Services Administration (GSA) uses two approaches to permit information systems, applications, services, features, or functions to be used.

- Authorization to Operate (ATO) - An official management decision authorizing the operation of an information system and to explicitly accept the risk to agency operations (including mission, functions, image, or reputation), agency assets, individuals, other organizations, and the Nation.
- Approval to Use (ATU) – A risk-based approval process for usage of services, features, or functions on information systems or platforms with an existing ATO.

Security Assessment and Authorization (A&A) processes within the GSA lead to an ATO and are based on the National Institute of Standards and Technology (NIST) Risk Management Framework (RMF) and the security authorization process as described in NIST Special Publication (SP) 800-37, Revision 2, "*Risk Management Framework for Information Systems and Organizations: A System Life Cycle Approach for Security and Privacy.*" This guide describes key activities in managing enterprise-level cybersecurity risk through a system life cycle perspective including information system ATO and continuous monitoring. Every GSA Information Technology (IT) system/platform must use one of the A&A processes identified in this guide or a pilot process as described in the next paragraph.

NIST SP 800-53, Revision 5, "*Security and Privacy Controls for Information Systems and Organizations*," became final in September 2020 and NIST SP 800-53B, "*Control Baselines for Information Systems and Organizations*," became final in October 2020. An errata release for both publications was released on December 10, 2020. Systems must update their documentation to align it with GSA's NIST SP 800-53/53B guidance and templates by the dates indicated below.

- September 30, 2021 - All Federal Information Process Standard (FIPS) 199 High Impact Systems, High Value Assets, and Government Wide Shared Services Systems on this list.
- December 10, 2021 – All other GSA systems.

A draft version of NIST SP 800-53A, Revision 5, "Assessing Security and Privacy Controls in Federal Information Systems and Organizations: Building Effective Assessment Plans," is expected to be released in July 2021. Based on this timeline systems must conduct assessments to the NIST SP 800-53 controls by the dates indicated below.

- March 31, 2022 - All Federal Information Process Standard (FIPS) 199 High Impact Systems, High Value Assets, and Government Wide Shared Services Systems on this list.
- Upon their next scheduled assessment or earlier per AO decision – All other GSA systems.

GSA may conduct pilots of additional A&A processes when a system or the evolving IT and IT security environments indicate a process different from any of GSA's existing processes is preferred. Piloting of new processes must be coordinated with the GSA Chief Information Security Officer (CISO). Final approval of the process is indicated by the CISO concurring with any ATO resulting from the pilot.

ATU processes and procedures are based on evaluating the risk of using available services, features, or functions based on their characteristics and environment. Section 3 provides additional information on GSA's ATU processes.

Any deviations from the security requirements established in GSA Order CIO 2100.1, "*GSA Information Technology (IT) Security Policy*" must be coordinated by the Information Systems Security Officer (ISSO) through the appropriate Information Systems Security Manager (ISSM) and authorized by the Authorizing Official (AO). Any deviations, exceptions, or other conditions not following GSA policies and standards must be submitted using the Security Deviation Request Google Form.

Executive Order (EO), EO 13800, "*Presidential Executive Order on Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure*" requires all agencies to use "The Framework for Improving Critical Infrastructure Cybersecurity (the Framework) developed by the NIST or any successor document to manage the agency's cybersecurity risk." This NIST document is commonly referred to as the Cybersecurity Framework (CSF). The CSF complements, and does not replace, an organization's risk management process and cybersecurity program. GSA uses NIST's RMF as its foundation for managing risk. Further information on how the CSF relates to GSA's use of the NIST RMF is explained in Section 5 and Appendix A where the CSF categories and subcategories are defined.

In Appendix F, Table F-1, GSA has identified a list of Showstopper capabilities and NIST SP 800-53 controls associated with them. Showstoppers and controls associated with them, if not fully compliant, will keep a system from receiving a full ATO.

1.1 Purpose

This procedural guide defines the GSA cybersecurity risk management process. It addresses the security authorization processes GSA has implemented for information systems to obtain an ATO. This guide identifies ATU processes for services, features, and functions to be used at GSA, and the process for protecting Confidential Unclassified Information (CUI) in nonfederal systems. The guide describes the key activities in managing enterprise-level cybersecurity risk as described in NIST SP 800-37. This guide assists agency and contractor personnel to understand and fulfill their security responsibilities regarding ATO, ATU, and other processes.

1.2 Scope

The requirements outlined within this guide apply to all GSA Federal employees, contractors, and vendors who oversee/protect GSA information systems and data. The guide provides GSA

Federal employees, contractors, and vendors as identified in CIO 2100.1*,* and other IT personnel involved in performing A&A activities, the specific processes to follow for properly accomplishing cybersecurity activities. All GSA systems must adhere to one of the processes described in this guide, the security requirements specified in CIO 2100.1, and the guides listed on the IT Security [Technical Guides and Standards](#) and [Procedural Guides](#) web pages. The following definitions are provided for classifying information systems/platforms within the scope of this guide.

- **Contractor System.** An information system in GSA's inventory processing or containing GSA or Federal data where the infrastructure and applications are wholly operated, administered, managed, and maintained by a contractor in non-GSA facilities.
- **Federal System (i.e., Agency System).** An information system in GSA's inventory processing or containing GSA or Federal information where the infrastructure and/or applications are NOT wholly operated, administered, managed, and maintained by a Contractor.

1.3   Policy

As detailed within CIO 2100.1, Authorizing Officials (AO) must ensure risk assessments are performed as part of A&A activities before a system is placed into production, when significant changes are made to the system, and as specified in this guide and the guides for GSA's other A&A processes.

1.4   GSA Archer GRC Implementation

GSA has implemented its official agency system inventory in Archer GRC. GSA is in the process of implementing authorization packages for its system inventory using Archer GRC's Assessment and Authorization module. As GSA continues its Archer implementation, specific activities described in the guide will be incorporated in Archer to take advantage of its automation capabilities. Any questions regarding the use of Archer GRC at GSA should be sent to archersupport@gsa.gov.

1.4.1   Agency System Inventory

The agency system inventory in Archer GRC contains attributes such as responsible organization, system name, FIPS security categorization level, ATO type, and ATO date. The inventory includes an A&A repository for storing all system A&A documents and artifacts for GSA systems.

1.4.2   Authorization Packages

Authorization packages have been created in Archer GRC for GSA's systems and the task of implementing the authorization process for systems is just starting. The first steps in this process include inputting security categorization, privacy, and system demographics (boundary, connections, etc.) into Archer GRC, and allocating NIST SP 800-53 security controls. Future steps

include conducting assessments, managing plans of action and milestones (POA&Ms), and the entire A&A process in Archer GRC.

1.5 Assessment and Authorization Roles and Responsibilities

There are many roles associated with the security authorization process. System Owners for each information system are responsible for ensuring their respective Service/Staff Office (S/SO) systems have been through the GSA A&A process, have received an ATO from the AO, and received concurrence from the GSA Office of the CISO (OCISO). The complete roles and responsibilities for agency management officials and others with significant IT Security responsibilities are defined fully in Chapter 2 of CIO 2100.1. The following sections provide a high-level description of the responsibility for the primary roles with management and operational A&A responsibilities.

1.5.1 GSA Administrator

The GSA Administrator is responsible for ensuring an information security program is developed, documented, and implemented to provide security for all systems, networks, and data that support the operations of GSA.

1.5.2 Risk Executive (Function)

The Risk Executive (Function) at GSA is handled by the Enterprise Management Board (EMB), chaired by the Deputy Administrator who is also the Senior Accountable Official for Risk Management (SAORM). For cybersecurity risks, the Enterprise Risk Executive Subcommittee (ERES), co-led by the Deputy Performance Improvement Officer and the CISO, identifies and monitors agency-wide risks and ensures the EMB is updated on the risks and impacts to GSA. The CISO, Authorizing Officials, and subject matter experts facilitate the consistent application of cybersecurity risk management across GSA.

1.5.3 GSA Chief Information Officer (CIO)

The GSA Chief Information Officer (CIO) has overall responsibility for the GSA IT Security Program. The CIO is responsible for providing guidance, assistance, support, and management processes to GSA staff and organizations to enable them to perform their responsibilities with regard to GSA's IT Security Program.

1.5.4 Chief Information Security Officer (CISO)

Public Law 113-283, "*Federal Information Security Modernization Act of 2014*" (FISMA), establishes the designation of a senior agency information security officer responsible for complying with Federal security requirements. GSA has assigned this role to the Chief Information Security Officer (CISO). The CISO is the focal point for all GSA IT security and must ensure the security requirements described in this Order are implemented agency wide. The CISO reports directly to the CIO as required by FISMA.

1.5.5   GSA Senior Agency Official for Privacy (SAOP)

The SAOP is responsible for ensuring GSA's compliance with privacy laws, regulations and GSA policy, and the privacy control baseline in NIST SP 800-53, Revision 5, "*Security and Privacy Controls for Federal Information Systems and Organizations.*" Within GSA, the CIO has designated the Deputy CIO as the SAOP.

1.5.6   GSA Chief Privacy Officer (CPO)

The CPO is responsible for overseeing GSA's Privacy Program whose mission it is to preserve and enhance privacy protections for all individuals whose personal information is handled by GSA and to encourage transparency of GSA operations involving personal information. The CPO manages GSA's Privacy Act Program and administers GSA's compliance with privacy laws and regulations. The CPO is responsible for developing, managing, and administering GSA's Privacy Program Plan and Privacy Strategy Plan.

1.5.7   Heads of Services and Staff Offices (HSSOs)

HSSOs are responsible for authorizing the operation of all systems, networks, and applications for which they have responsibility. They may delegate some of their authority (e.g., the role of Authorizing Official in writing) to appropriately qualified individuals within their organizations.

1.5.8   Authorizing Officials (AOs)

AOs are responsible for authorizing the operation of all systems, networks, and applications for which they have responsibility. They may delegate some of their authority (e.g., the role of Authorizing Official in writing) to appropriately qualified individuals within their organizations.

1.5.9   Office of CISO Division Directors

OCISO Directors are the intermediary to the AO for ensuring IT security is properly implemented. The Director is the focal point for all IT system security matters for the IT resources under their responsibility.

1.5.10   Information Systems Security Managers (ISSMs)

ISSMs report to the ISSO Support Division (IST) Director in the OCISO. There is at least one ISSM per AO. The ISSM is responsible for all IT system security and privacy matters for the systems under their authority. ISSMs work with ISSOs, System Owners, AOs, and others as security and privacy controls are implemented and review A&A packages for systems under their purview. ISSMs are appointed, in writing, by the Director of IST with concurrence by the CISO. An individual appointed as an ISSM for a system cannot also be assigned as the ISSO for the same system.

1.5.11   Information Systems Security Officers (ISSOs)

ISSOs are responsible for ensuring implementation of adequate system security and privacy protections, including proper control implementations, in order to manage cybersecurity risk aligned with the NIST CSF functions of Identify, Protect, Detect, Respond, and Recover. An ISSO

must be assigned for every information system. An ISSO may have responsibility for more than one system, provided there is no conflict. An individual assigned as the ISSO for a system cannot also be the ISSM for the same system. ISSOs must be appointed via a designation letter. An ISSO must be knowledgeable of the information and processes supported by their assigned systems. ISSOs review A&A packages for systems under their purview.

1.5.12 System Owners

System Owners are management officials within GSA who bear the responsibility for the acquisition, development, maintenance, implementation, and operation of GSA's IT systems. System Owners represent the interests of the system throughout its lifecycle. Primary responsibility for managing risk rests with the System Owners. System Owners must ensure their systems and the data each system processes have the necessary security and privacy controls in place and are operating as intended and protected IAW GSA regulations and any additional guidelines established by the OCISO and relayed by the ISSO or ISSM.

1.5.13 Program Managers

Program Managers are management officials within GSA who are responsible for developing, implementing, and/or overseeing multi-year IT initiatives that must be carried out through multiple related projects. A Program Manager focuses on the strategic goals of GSA. Program Managers are responsible for ensuring cyber risk is adequately managed and resources are allocated, monitored, and managed to support the required level of security for projects under their purview.

1.5.14 Project Managers

Project Managers are management officials within GSA who are responsible for managing a project within a larger program. A Project Manager is responsible for ensuring cyber risk is adequately managed and the schedule, resources, and tasks within a project include delivering security.

1.5.15 Data Owners (i.e., Functional Business Line Managers)

Data Owners are responsible for determining the security categorization level of systems based upon Federal Information Processing Standards (FIPS) Publication 199, "*Standards for Security Categorization of Federal Information and Information Systems,*" and ensuring System Owners are aware of the sensitivity of data (e.g., Personally Identifiable Information, Controlled Unclassified Information) to be handled. They must coordinate with System Owners, ISSMs, ISSOs, and Custodians to ensure the data is properly stored, maintained, protected, and monitored IAW GSA policies, regulations and any additional guidelines established by GSA.

1.5.16 Contracting Officers (COs)/Contracting Officer's Representatives (CORs)

COs/CORs are responsible for coordinating and collaborating with the CISO or other appropriate officials to ensure all agency contracts and procurements are compliant with the agency's information security policy. They also must ensure the appropriate security and privacy contracting language is incorporated in each contract and task order.

1.5.17　Custodians

Custodians own the hardware platforms and equipment on which the data is processed. They are the individuals in physical or logical possession of information from Data Owners. They must coordinate with Data Owners and System Owners to ensure the data is properly stored, maintained, and protected.

1.5.18　Users of IT Resources

Authorized users of GSA IT resources, including all Federal employees and contractors, either by direct or indirect connections, are responsible for complying with GSA's IT Security Policy and procedures.

1.5.19　System/Network Administrators

System/Network Administrators are responsible for ensuring the appropriate security requirements are implemented consistent with GSA IT security policies and hardening guidelines.

2　Identifying Appropriate ATU or ATO Process

The next two sections list GSA's ATU and ATO processes along with applicability/qualifying criteria to use a specific process. The applicability/qualifying criteria listed in Tables 2-1 and 2-2 identify the conditions under which each process may be used. If additional guidance is necessary or there is a question about which process to use, contact any GSA ISSM, the IST, ISP, or ISE Directors, to determine the appropriate process to follow.

2.1　Identifying the Appropriate ATU Process

Table 2-1 identifies the applicability/qualifying criteria for GSA's ATU processes.

Table 2-1. GSA ATU Processes

ATU Process	Applicability/Qualifying Criteria
GSA Salesforce Platform (See Section 3.1)	• Applications that integrate into GSA's Salesforce Force.com platform and are hosted on Salesforce.com's infrastructure. • Applications developed for internal and external GSA use published on the GSA's Salesforce Force.com platform.
Federalist Site Review (See Section 3.2)	• Sites requesting to be hosted on the Federalist platform.
Robotic Process Automation (RPA) (See Section 3.3)	• Bots used to interact with GSA systems.
Google Extensions and Add-ons (See Section 3.4)	• Google Chrome browser extensions for use within GSA.
Google Apps Scripts (See Section 3.5)	• Google Apps scripts for use within GSA.

ATU Process	Applicability/Qualifying Criteria
Google Cloud Platform (GCP) Services (See Section 3.6)	• Google Cloud Platform (GCP) services not currently Federal Risk and Authorization Management Program (FedRAMP) approved.
AWS Services (See Section 3.7)	• Amazon Web Services (AWS) services not currently FedRAMP approved.

2.2   Identifying the Appropriate ATO Process

Table 2-2 identifies the applicability/qualifying criteria for GSA's ATO processes.

Table 2-2. GSA ATO Processes

ATO Process	Applicability/Qualifying Criteria
GSA Standard A&A (See Section 5)	• All new and existing GSA information systems that do not fall under one of the other A&A processes.
Lightweight Security Authorization (See Section 4.2)	• New GSA information systems pursuing an agile development methodology. • Reside on infrastructures that have a GSA ATO concurred to by the CISO or a FedRAMP ATO. • Must be FIPS 199 Low or Moderate. • Prior to pursuing a 90-day Limited Authorization to Operate (LATO) the GSA CISO and AO must approve the use of the process.
Low Impact Software as a Service (LiSaaS) Solutions Authorization Process (See Section 4.3)	• Cloud computing Software as a Service (SaaS) solutions that are implemented within GSA. • Data already exists in the public domain or data is non-sensitive and is considered FIPS 199 Low impact. • GSA would be caused limited harm regardless of the consequence of an attack or compromise. • Dollar cost for such deployments do not exceed $100,000 annually • A disruption in service or the inability to access the service will not have an impact to operations or business process. • Risk level of the LiSaaS solution will be determined through completion of a SaaS Solution Profile.
GSA Agency FedRAMP (See Section 4.4)	• A CSP requesting GSA Agency sponsorship into FedRAMP. • GSA accepts sponsoring the CSP. • GSA determines CSP's security authorization package will be considered FedRAMP compliant.
Moderate Impact Software as a Service (MiSaaS) Security Authorization (See Section 4.5)	• New GSA information systems pursuing an agile development methodology. • Reside on infrastructures that have, or are pursuing, a Federal Risk and Authorization Management Program (FedRAMP) provisional ATO. • Must be FIPS 199 Moderate.
GSA Subsystem (See Section 4.6)	• Classified as a subsystem (and not a Salesforce application). • Dependent upon resources provided by its supporting FISMA system. • FIPS 199 Low or Moderate. • FIPS 199 level may be equal to or below the level of the supporting FISMA system.

ATO Process	Applicability/Qualifying Criteria
GSA Ongoing Authorization (OA) Program (See [Section 4.7](#))	• The information system must have had all of its NIST SP 800-53 security controls for its applicable FIPS 199 level, and any additional controls required by the GSA CISO assessed within the past 18 months and issued an ATO. • The information system must have deployed GSA's enterprise ISCM tools, based on applicable system requirements, defined within the [GSA ISCM Enterprise Security Management Tools](#).
GSA Leveraged FedRAMP XaaS Solution (See [Section 4.8](#))	• Leveraged XaaS must have a FedRAMP ATO. • All customer responsibilities in the CSP's Customer Responsibility Matrix (CRM) must be addressed in a CRM SSP.

3   ATU Process Summaries

Additional details about the GSA ATU processes listed in Table 3-1 are provided in the following sections.

3.1   GSA Salesforce Platform Process

- **Document Reference:** IT Security Procedural Guide: Salesforce Platform Security Implementation (CIO-IT Security-11-62)

- **Result:** Salesforce Application ATU

- **Summary of Process**: Specific to applications developed for internal and external GSA use published on GSA's Salesforce Force.com platform. Applications are approved for use based on implementation of NIST SP 800-53 controls, security configuration settings, and user permissions as detailed in CIO-IT Security-11-62.

- **Approval Process**: After the ISSM accepts/approves the ATU package it becomes a part of the SSPP and allows the minor application to be added to the Salesforce inventory along with POAMs reflecting any identified vulnerabilities.

3.2   Federalist Site Process

- **Document Reference**: IT Security Procedural Guide: Federalist Site Review and Approval Process (CIO-IT Security-20-106).

- **Result**: Federalist Site ATU

- **Summary of Process**: Each site requesting to be on-boarded to the Federalist for hosting must complete a Federalist Site Review and Approval template, available on the [InSite Forms and Aids page](#). Site URLs must be scanned in accordance with GSA's NSP 800-53 control RA-5, Vulnerability Scanning, as described in CIO-IT Security-18-90.

- **Approval Process**: The ISSO and Site Owner complete the Federalist Site Review and Approval template and the Federalist ISSM reviews for approval.

3.3   RPA Process

- **Document Reference**: IT Security Procedural Guide: Robotic Process Automation (RPA) Security (CIO-IT Security-19-97).

- **Result**: RPA ATU

- **Summary of Process**: Each request to approve a GSA RPA Bot must include a completed RPA Attributes Questionnaire template, available on the [InSite Forms and Aids page](#). The questionnaire includes questions/requirements based on the type of bot (i.e., simple, complex), rules of behavior, and interaction with systems.

- **Approval Process**: After reviewing the questionnaire and required artifacts, the RPA ISSO may approve simple bots. After review, the RPA ISSM relays the questionnaire and artifacts for complex bots to the RPA ISSM for approval.

3.4   Google Extensions and Add-ons

- **Document Reference**: [Google Extensions and Add-Ons InSite page](#)

- **Result**: Addition to the lists of GSA Approved/Rejected [Extensions](#) or [Add-ons](#)

- **Summary of Process**: Each request for a Google Extension or Add-on must follow the process described on the [Requesting Google Add-Ons](#) and [Google Chrome Extension Request](#) InSite web pages. Requests for new extensions or add-ons (i.e., not already approved or rejected) require a Service Catalog request.

- **Approval Process**: Service Catalog requests for new extensions and add-ons are routed to the ISE Division for review. After ISE completes the review, the approved/rejected lists are updated and the requestor notified along with rationale if rejected.

3.5   Google Apps Scripts

- **Document Reference**: GSA Order 2100.1, Chapter 4, Policy for Protect Function, Section mm

- **Result**: Google App Script ATU

- **Summary of Process**: Internally developed scripts are implicitly allowed but require review by the ISE Division and may be restricted from use pending the results of the ISE review. Internally developed scripts must follow the GSA naming convention as described in GSA Order CIO 2100.1. Externally developed scripts are prohibited but may be allowed following OCISO review.

- **Approval Process**: Use the [Google App Script Approval Form](#) to request approval for internal and external scripts. After ISE completes its review, the script will be approved/rejected and the requestor notified along with rationale if rejected.

3.6   GCP Services

- **Document Reference**: CIO-IT Security Procedural Guide being developed, in the interim contact seceng@gsa.gov for information

- **Result**: GCP (Non-FedRAMP) Services ATU

- **Summary of Process**: Specific to GCP services not currently FedRAMP approved. Requestors must provide the following details to ISE in order to request GCP services:
  - GCP Service Type;
  - GCP Service Name;
  - Service Namespace;
  - Short Service Description; and
  - Service Description.
- **Approval Process**: Requests for GCP services to be reviewed should be submitted to seceng@gsa.gov. ISE will approve or reject the GCP service based on a security review of the service. Approved services may require additional usage conditions/restrictions for use at GSA.

3.7   AWS Services

- **Document Reference**: ISE Master AWS Services Tracking List (see About This Sheet Tab)

- **Result**: AWS (Non-FedRAMP) Services ATU

- **Summary of Process**: Specific to AWS services not currently FedRAMP. Requestors must provide the following details to ISE in order to request AWS services:
  - AWS Service Description;
  - AWS Service Name; and
  - Core Security Information (see ISE AWS Service Template for details)

- **Approval Process**: Requests for AWS services to be reviewed should be submitted to seceng@gsa.gov. ISE will approve or reject the AWS service based on a security review of the service. Approved services may require additional usage conditions/restrictions for use at GSA.

4   A&A Process Summaries

GSA's different A&A processes have been developed to ensure the risks to operating GSA IT systems and their data are reduced to the extent possible based on budget constraints, business requirements and other resource issues. For all A&A processes (except for a 90-day LATO) before assessment activities for an information system can begin, the following requirements must be met:

(1) The information system must be clearly defined in an SSPP or LiSaaS Survey/Checklist.

(2) The information system's architecture must be approved by the OCISO Security Engineering Division (ISE).

(3) A SAP (or other method of assessment when a SAP is not required) must be approved.

To assist ISSOs and/ISSMs in managing recurring tasks regarding A&A processes and the security of GSA information systems Federal and Contractor ISSO Checklists have been developed in GSA's implementation of Archer GRC.

Additional details about the GSA ATO processes listed in Table 2-2 are provided in the following sections. In addition, GSA is developing IT Security Procedural Guide CIO-IT Security-21-114: Clean Authorization to Operate (ATO) to provide a clearly defined, phased approach for successfully completing the A&A and receiving an ATO for a system. The Clean ATO guide includes links to a number of standard operating procedures (SOPs) that provide additional details regarding executing tasks that occur prior to assessments, during assessments, and after assessments to ensure systems can effectively and efficiently receive an ATO.

4.1 GSA Standard A&A Process

- **Document Reference**: Section 5 of this guide.

- **Result**: Full 3 Year ATO.

- **Summary of Process**: All new and existing GSA information systems must undergo a security assessment and authorization at least every three (3) years or whenever there is a significant change to the system's security posture. The result is an ATO for a period not to exceed three (3) years. Specific requirements are detailed throughout this guide.

- **Approval Process**: Follows the process described in Section 5.6.4, Authorization Decision.

4.2 Lightweight Security Authorization Process

- **Document Reference:** IT Security Procedural Guide: Lightweight Security Authorization Process (CIO-IT Security-14-68).

- **Result:** LATO - 90 day (Sprint or Standard)/1 Year (Moderate); Full 3 Year ATO (Low).

- **Summary of Process:** New GSA information systems pursuing an agile development methodology AND residing on infrastructures that have a GSA ATO concurred by the GSA CISO or a FedRAMP ATO. The process supports the following ATOs. Prior to pursuing a 90-day LATO the GSA CISO and AO must approve the use of the process.

  A 90-day LATO can be issued based on the results of a limited assessment (e.g., vulnerability scans, penetration tests). The following documents are required to issue a 90-day LATO:

  - Assessment Test Report (i.e., Enhanced Scanning and Assessment, Penetration)

- POA&M
- Certification Memorandum
- ATO Letter.

A one-year LATO (for FIPS 199 Moderate) or a three-year full ATO (for FIPS 199 Low) can be issued based on completing the process described in CIO-IT Security-14-68. The following documents are required:

- System Security and Privacy Plan (with appendices/attachments)
- Security Assessment Report (with appendices/attachments)
- POA&M
- CRM
- Certification Memorandum
- ATO Letter.

- **Approval Process**: Follows the process described in Section 5.6.4, Authorization Decision.

4.3   Low Impact Software as a Service (LiSaaS) Solutions Authorization Process

- **Document Reference:** IT Security Procedural Guide: Low Impact Software as a Service (LiSaaS) Solutions Authorization Process (CIO-IT Security-16-75).

- **Result:** One year if the application is determined to be Low Risk, or up to three years if the application is determined to be a commodity, ancillary service that presents Very Low/Negligible risk.

- **Summary of Process:** Process is for cloud computing Software as a Service (SaaS) solutions that (1) are implemented for a limited duration; (2) involve data already in the public domain or data that is non-sensitive and could be considered FIPS 199 low impact; (3) could cause limited harm to GSA regardless of the consequence of an attack or compromise; (4) the dollar cost for such deployments do not exceed $100,000 annually; and (5) a disruption in service or the inability to access the service will not have an impact to operations or business process.

  A LiSaaS Solution Review Checklist template available on the InSite IT Security Forms and Aids page must be completed for all systems. An analysis of risk is performed based on the completed checklist. Very Low/Negligible risk solutions require a LiSaaS Solution Profile (also available at the preceding link) be completed; low risk solutions require the vendor to obtain a FedRAMP Tailored ATO. Detailed information is available in CIO-IT Security-16-75.

- **Approval Process**: Follows the process described in Section 5.6.4, Authorization Decision.

4.4   GSA Agency FedRAMP Process

- **Document Reference:** [CSP Authorization Playbook-Getting Started with FedRAMP,](#) additional details available in the [FedRAMP Security Assessment Framework](#) and [FedRAMP General Document Acceptance Criteria](#)

- **Result:** FedRAMP ATO (Agency)

- **Summary of Process:** A CSP may elect to request an Agency FedRAMP ATO from GSA. It is at the discretion of GSA to accept or deny the CSP's request for sponsorship. CSPs which GSA agrees to sponsor for a FedRAMP authorization are required to follow the FedRAMP PMO authorization process requirements. GSA has defined assignments for NIST SP 800-53 control parameters within the FedRAMP Low and Moderate baselines as its organizationally defined parameters. The parameters are contained in GSA's Control Tailoring Workbook. Additional information about FedRAMP is available in the reference documents and at the [FedRAMP webpage](#). The CSP must provide a security authorization package to GSA. If GSA determines the package to be FedRAMP compliant, the CSP in cooperation with GSA will pursue a FedRAMP ATO.

  System Owners/AOs with questions about leveraging the FedRAMP security authorization process (to attain a Government wide authorization) should contact the OCISO at ispcompliance@gsa.gov.

- **Approval Process**: Follows the FedRAMP process.

4.5   Moderate Impact Software as a Service (MiSaaS) Security Authorization Process

- **Document Reference:** IT Security Procedural Guide: Moderate Impact Software as a Service (MiSaaS) Security Authorization Process (CIO-IT Security-18-88) describes the process and requirements for authorizing the operation of MiSaaS solutions within GSA.

- **Result:** 1 Year ATO

- **Summary of Process:** New GSA information systems pursuing an agile development methodology AND residing on infrastructures that have, or are pursuing, a FedRAMP provisional ATO. The process allows for a FIPS 199 Moderate impact SaaS to be granted a one-year ATO after completing the tailored RMF process detailed in CIO-IT Security-18-88.

  The following documents are required as part of the A&A Package:

  - MiSaaS System Security and Privacy Plan (SSPP)
  - SAR, including
    – MiSaaS Test Workbook
    – OS (including DB), Web App scan data (as appropriate)
    – Penetration Test Report

- POA&M
- CRM
- Certification Memorandum
- ATO Letter

- **Result:** 1 Year ATO

- **Approval Process:** Follows the process described in [Section 5.6.4](#), Authorization Decision

4.6   GSA Subsystem Process

- **A&A Process Reference:** Described within this section.

- **Result:** ATO aligned with subsystem's supporting FISMA system.

- **Summary of Process:** This process is specific to subsystems (other than Salesforce applications) which are: (1) categorized with a FIPS 199 security impact level of Low or Moderate; and (2) are dependent upon the resources provided by its underlying supporting FISMA system. The supporting FISMA system must be shown to provide a foundational level of protection for the subsystem; the subsystem may have a FIPS 199 level equal to or below the level of its supporting FISMA system.

  Subsystems with a FIPS 199 security impact level of Low will adhere to and implement the controls per CIO-IT Security-14-68: Lightweight Security Authorization Process.

  Subsystems with a FIPS 199 security impact level of Moderate will document all security and privacy controls where the subsystem has either hybrid or system specific requirements in an SSPP. These controls will be assessed using GSA's NIST 800-53 Test Cases and the results shared with the supporting FISMA system's System Owner/ISSO. All subsystems will be identified in Appendix C of their supporting FISMA system's SSPP which will also be attached to the hosting/supporting system's ATO Letter. All subsystems inherit its supporting FISMA system's ATO cycle.

- **Approval Process**: New and transferred subsystems receive an ATO based on the A&A process (see Summary Process description above) followed. Existing subsystems (and new and transferred when added) are included in the A&A Package review and approval process of their supporting FISMA system.

4.7   GSA Ongoing Authorization (OA) Program

- **A&A Process Reference:** IT Security Procedural Guide: Information Security Continuous Monitoring (ISCM) Strategy & Ongoing Authorization (OA) Program, CIO-IT Security-12-66.

- **Result:** Ongoing Authorization to Operate (OATO)

- **Summary of Process:** GSA has implemented its OA Program as summarized below.

- A system must meet the OA prerequisites identified in CIO-IT Security-12-66.
- An OA Checklist is completed by the OA Team in collaboration with the ISSO, ISSM, and system team. The OA checklist reviews five main security areas including ISCM/CDM Tools, Vulnerability Management, Configuration Compliance, Critical Security Controls and Security Documentation.
- An Onboarding Assessment Report (OAR) is prepared by the OA Team and ISSO. The OAR is functionally the SAR for systems entering the OA Program.
- Systems suitable for OA have an Onboarding Approval Meeting (OAM) held with the OA Team and system personnel.
- OATO Letter is prepared and routed for signature.
- Systems in OA undergo biannual performance metric reviews (PMRs) with results presented to the CISO and AO to make a risk-based determination on continuance in the OA program. Additional details are available in CIO-IT Security-12-66.

- **Approval Process**: Follows the same process described in Section 5.6.4, Authorization Decision, with the following exception, the Director of ISP replaces the Director of IST.

4.8   GSA Leveraged FedRAMP XaaS Solution Process

- **A&A Process Reference:** Described within this section.

- **Result:** ATO for a Leveraged FedRAMP XaaS Solution

- **Summary of Process:** GSA's process for issuing an ATO leveraging a FedRAMP XaaS is as described below. Every instance of a leveraged solution needs its own ATO unless the ATO is for an GSA enterprise solution.

  - A CRM SSPP is developed documenting the leveraged solution and GSA's implementation of the customer responsibilities listed in the CSP CRM for the solution. **Note:** The CRM SSPP is organized by customer responsibilities and not individual controls. A CRM SSPP Template is available on the InSite Forms and Aids page. The SSPP template includes as required attachments:
    - FIPS 199 Security Categorization identifying the information types GSA will use with the leveraged solution.
    - Privacy Threshold Assessment to identify if any Personally Identifiable Information (PII) is used with the leveraged solution. If PII is used a Privacy Impact Assessment will also be required.
    - Digital Identity Acceptance Statement identifying the Identity, Authentication, and Federation Assurance Levels required for the leveraged solution.
  - The CSP CRM is updated by labeling two columns (see below) to the right of the last column in the Customer Responsibility Matrix tab and completing those columns for all responsibilities listed.
    - Implementation Status (Yes/No)
    - Comments if No.

- Any evidentiary artifacts supporting documents listed are stored in a central location for review.
- Assessments for leveraged solutions will be performed as listed below. The assessment artifacts will be included as part of the authorization package.
    - FIPS 199 Low systems may use self-attestation as the assessment artifact.
    - FIPS 199 Moderate systems must have an independent assessment[1] performed against the CRM controls/requirements using methods approved by the OCISO.

- **Approval Process**: A Leveraged XaaS Certification Memorandum is prepared documenting any less than fully implemented customer responsibilities. An ATO letter is prepared, which may be an update to an existing ATO letter for a system/platform. Templates are available on the InSite IT Security Forms and Aids page.

    Note: For systems leveraging a FedRAMP XaaS solution, an ATO letter must be prepared for every instance of the leveraged solution.

5 GSA Standard A&A Process

All GSA A&A processes are based upon NIST SP 800-37. A depiction of the NIST RMF steps is provided in Figure 5-1.

Figure 5-1. Risk Management Framework Steps (from NIST 800-37, Revision 2)

The RMF steps associated with the GSA Standard A&A Process are detailed in the following sections. Additional A&A processes GSA has developed or uses are identified in Section 4 which have been adapted or modified from the standard RMF processes. Documents required as part

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[1] Independence is defined as when assessors do not: (i) have a mutual or conflicting interest with the organizations where the assessments are being conducted; (ii) assess their own work; (iii) act as management or employees of the organizations they are assessing; or (iv) place themselves in positions of advocacy for the organizations acquiring their services.

of a GSA A&A process are listed in Appendix C along with hyperlinks (where applicable) to resources containing document templates.

The RMF steps in this section are documented in their sequential order from NIST SP 800-37. Similar to NIST SP 800-37, after the Prepare step the RMF steps may be completed in a non-sequential order due to the system type, the life cycle stage, and development process (e.g., agile development often generates multiple iterations of steps). When systems are in the Monitor step, changes to the system may cause multiple steps to be revisited. In addition, tasks in some steps may occur concurrently for efficiency. For example, in the Select step, the control selection, control tailoring, and some aspects of control allocation are interrelated which may benefit by considering them at the same time.

As required by EO 13800, GSA has aligned its risk management process with the CSF. The five core CSF Functions are:

- **Identify (ID):** Develop an organizational understanding to manage cybersecurity risk to systems, people, assets, data, and capabilities.
- **Protect (PR):** Develop and implement the appropriate safeguards to ensure delivery of critical infrastructure services.
- **Detect (DE):** Develop and implement appropriate activities to identify the occurrence of a cybersecurity event.
- **Respond (RS):** Develop and implement appropriate activities to take action regarding a detected cybersecurity incident.
- **Recover (RC):** Develop and implement appropriate activities to maintain plans for resilience and to restore any capabilities or services that were impaired due to a cybersecurity incident.

Appendix A contains a mapping of the NIST RMF steps and tasks to the five core functions of the CSF in Table A-1. Table A-2 provides the definitions for the CSF Categories and Subcategory Unique Identifiers.

5.1　RMF PREPARE Step

From NIST SP 800-37, "*The purpose of the **Prepare** step is to carry out essential activities at the organization, mission and business process, and information system levels of the organization to help prepare the organization to manage its security and privacy risks using the Risk Management Framework.*"

Organization Level Prepare Tasks

Additional details on the organizational prepare steps described in the following sections are included in CIO-IT Security-18-91: Risk Management Strategy (RMS), CIO-IT Security-18-90: Information Security Program Plan (ISPP), CIO-IT Security-12-66: Information Security Continuous Monitoring (ISCM) Strategy & Ongoing Authorization (OA) Program, CIO 2100.1, and guides describing GSA's various A&A processes identified in Section 4.

5.1.1　TASK P-1: Risk Management Roles

CIO 2100.1, Section 1.5 of this guide, and CIO-IT Security-18-91: Risk Management Strategy (RMS) identify and assign key roles for executing the RMF within GSA. The CISO, Authorizing Officials, ISSMs, ISSOs, System Owners, and subject matter experts from the OCISO and other GSA organizations facilitate the consistent application of cybersecurity risk management across GSA.

5.1.2　TASK P-2: Risk Management Strategy

The EMB, chaired by the Deputy Administrator who is also the SAORM manages enterprise risk at GSA. For cybersecurity risks, the ERES, co-led by the Deputy Performance Improvement Officer and the CISO, identifies and monitors agency-wide risks and ensures the EMB is updated on the risks and impacts to GSA. CIO-IT Security-18-91: Risk Management Strategy provides a comprehensive approach for framing, assessing, responding to, and monitoring risks associated with GSA information systems in accordance with Federal laws, regulations, and requirements. It addresses risk tolerance, determination, acceptance, mitigation, and communication within GSA and to external organizations. The GSA Privacy Program addresses privacy risks at GSA.

5.1.3　TASK P-3: Risk Assessment – Organization

The EMB along with the ERES address risks at the organizational level. The EMB meets periodically at the direction of the Deputy Administrator (Chair) or the Chief Financial Officer/Performance Improvement Officer (Deputy Chair) to assess and update organizational risks at GSA. CIO-IT Security-18-91: Risk Management Strategy contains additional details about the EMB and ERES.

5.1.4　TASK P-4: Organizationally – Tailored Control Baselines and Cybersecurity Framework Profiles (OPTIONAL)

The various GSA A&A processes listed in Section 4 of this guide, along with the GSA Control Tailoring Workbook, System Security and Privacy Plan (SSPP) templates, and the controls listed in Section 9 of this guide, establish and identify GSA's tailored control baselines for systems.

5.1.5　TASK P-5: Common Control Identification

GSA IT Security-18-90, "*Information Security Program Plan (ISPP)*," identifies enterprise-wide common and hybrid controls. It provides implementation details about common controls and common portions of hybrid controls for systems to inherit and information regarding system responsibilities for the hybrid controls.

The GSA is in the process of identifying the apportionment of controls for other common control sources such as GSA enterprise systems (e.g., general support systems, platforms) and other S/SO systems or sources. System Owners inheriting controls must ensure providing systems agree that they are providing the controls and then document this inheritance in their SSPPs. As the GSA moves SSPPs into Archer GRC control inheritance will be implemented such that common control providers will designate controls being provided and systems inheriting controls will identify controls they are inheriting and the systems they are inheriting them from.

As this information becomes available in Archer GRC some of the manual activities discussed will happen automatically.

Common control providers are responsible for:

- documenting common controls in an SSPP (or equivalent document prescribed by the organization);
- ensuring that common controls are developed, implemented, and assessed for effectiveness by qualified assessors with a level of independence required by the organization;
- documenting assessment findings in a security assessment report;
- producing a plan of action and milestones for all common controls deemed less than effective (i.e., having unacceptable weaknesses or deficiencies in the controls);
- receiving authorization for the common controls from the AO; and
- monitoring common control effectiveness on an ongoing basis.

The common control provider's SSPP, Security Assessment Report (SAR), and POA&M for common controls (or a summary of such information) should be made available to System Owners (whose systems are inheriting the controls) after the information is reviewed and approved by the AO responsible and accountable for the controls.

A Control Implementation Summary (CIS) table based on the system's control baseline must be completed. The table identifies control types (common, hybrid, system specific), implementation status (Fully Implemented, Partially Implemented, Planned, etc.), and responsibility (OCISO, GSS/Platform/System) for the system's controls. The table should be customized to the GSA S/SO or contractor's environment to account for additional designations of responsibility as necessary. CIS table templates are available for use on the IT Security Forms and Aids page.

The completed CIS table will be included as an attachment to the SSPP. It will be updated in subsequent steps of the RMF process, including after security control implementation and following security assessment to document the results of the review.

5.1.6   TASK P-6: Impact-Level Prioritization (Optional)

GSA has not performed this optional task at this time. Systems will continue to use their FIPS 199 security categorization of Low, Moderate, or High with no further priority or level within those categories. GSA has developed additional A&A processes, as listed in Section 4, which allows systems meeting the criteria for a specific process to streamline its A&A activities.

5.1.7   TASK P-7: Continuous Monitoring Strategy – Organization

The GSA continuous monitoring strategy leverages both manual and automated processes to monitor a system's security and privacy controls. The objective of the strategy is to ensure all key information security controls are periodically assessed for effectiveness. GSA's organizational continuous monitoring strategy leverages its deployment of Continuous

Diagnostics and Mitigation (CDM) and other Enterprise Security Management tools (e.g., Netsparker, Enterprise Logging Platform) to monitor the security of GSA's systems. CIO-IT Security-12-66: Information Security Continuous Monitoring (ISCM) Strategy & Ongoing Authorization (OA) Program provides more details on how GSA continuously monitors vulnerabilities, threats, and actions taken to reduce, mitigate, or eliminate them. Key components of GSA's strategy are regular vulnerability scanning activities and security configuration checks, the requirement to maintain A&A documents in an "as-is" state, management and review of POA&Ms, and ISSO Checklists within Archer GRC.

System Level Prepare Tasks

Additional details on the System-Level prepare tasks described in the following sections are included in CIO-IT Security-21-114: Clean Authorization to Operate (ATO)—this guide is under development and will be posted to the InSite [IT Security Procedural Guides web page](#) when complete. It provides a clearly defined, phased approach for successfully completing the A&A of a system in order for the system to receive an ATO. The Clean ATO guide includes links to a number of standard operating procedures (SOPs) that provide additional details regarding executing tasks that occur prior to assessments (Prepare, Select, Implement), during assessments (Assess), and after assessments (Authorize) to ensure systems can effectively and efficiently receive an ATO.

5.1.8   TASK P-8: Mission or Business Focus

The information system's missions, business functions, processes, and purposes the system is intended to support is to be documented in Section 9, General Description, of the GSA SSPP template. The system owner in collaboration with the ISSO completes this section of the SSPP.

5.1.9   TASK P-9: System Stakeholders

The information system's system owner, AO, ISSO, ISSM, and other stakeholders (e.g., custodian, CSP, etc.) is to be documented in Sections 3-6 of the GSA SSPP template. The system owner in collaboration with the ISSO completes this section of the SSPP.

5.1.10 TASK P-10: Asset Identification

The information system's assets, both tangible and intangible, are to be documented in Sections 8-10 of the GSA SSPP template. Tangible elements include physical elements, human elements, and technological elements. Intangible elements include data/information, firmware, software, services, and processes/functions. For example, the assets would include the locations, types of information, hardware and software components, and users. The system owner in collaboration with the ISSO completes this section of the SSPP.

5.1.11 TASK P-11: Authorization Boundary

The information system's authorization boundary is documented in Sections 9-11 of the GSA SSPP template. The system owner in collaboration with the AO and ISSO completes this section of the SSPP. The authorization boundary includes the system components, network

architecture, and inventory. Diagrams showing connections and interconnections must clearly depict the authorization boundary. The tables for interconnections in the SSPP must be completed, including agreements concerning those interconnections, as applicable. Per GSA IT Security Policy 2100.1, "*All interconnections between GSA and external entities including off-site contractors or Federal agency/departments must be documented in ISA that is approved by the AOs and concurred by the GSA CISO*". Per NIST 800-47, "*Security Guide for Interconnecting Information Technology Systems*" an interconnection is the direct connection of two or more IT systems for the purpose of sharing data and other information resources through a pipe, such as ISDN, T1, T3, DS3, VPN, API, etc.

5.1.12 TASK P-12: Information Types

The information system's information types are documented in Section 2 of the GSA SSPP template. The data owner(s) and system owner in collaboration with the ISSO completes this section of the SSPP. A GSA FIPS 199 Security Categorization document must be completed and attached to the SSPP. It will identify the information system types and overall security categorization of the system based on the information types listed in NIST SP 800-60 Volumes I and II.

5.1.13 TASK P-13: Information Life Cycle

The life cycle of information must be described to include its creation or collection, processing, transmission, use, storage and disposition. Sections 10.4 and 10.5 of the GSA SSPP template must be completed to understand much of the information life cycle. Those sections describe how data flows within and into and out of the system. Other sections of the SSPP, such as the Section 9 where the system missions, functions, and business processes must describe the collection or creation of information in order to fulfill the overall mission of the system. Specific controls regarding encryption of data and media protection and sanitization provide additional details on the transmission and disposition of information.

5.1.14 TASK P-14: Risk Assessment – System

An initial security assessment must be performed prior to a system receiving an ATO. This assessment includes assessing the risk of operating the system as detailed in the RMF Assess Step in Section 5.5 of this guide. Assessment of risk is also performed as part of the RMF Monitor Step in Section 5.7 of this guide.

5.1.15 TASK P-15: Requirements Definition

Completion of the GSA FIPS 199 Security Categorization and Privacy Threshold Assessment/Privacy Impact Assessment assessments provide the FIPS 199 security category of the system and the determination on whether the system contains Personally Identifiable Information (PII). These two documents determine the initial set of security requirements/controls that the system must meet/implement. GSA's various A&A processes, the Control Tailoring Workbook, SSPP templates, and Section 9 of this guide further define the exact set of requirements for the system and the controls it must implement.

5.1.16 TASK P-16: Enterprise Architecture

GSA's Office of Enterprise Planning and Governance (IDR) in GSA IT is responsible for GSA's enterprise architecture. GSA Order CIO 2110.4, "*GSA Enterprise Architecture Policy*" utilizes GSA's strategic goals, mission and support services, data, and enabling technologies to communicate the business vision and target architecture in conjunction with the GSA Performance Management, Capital Planning and Investment Control (CPIC), and Solutions Life Cycle (SLC) processes. The Security Engineering Division (ISE) in OCISO works closely with IDR and other Services/Staff Offices to facilitate integration of security standards/requirements into development efforts, ensuring secure outcomes as a matter of routine. Additional information is available in CIO-IT Security-18-90: Information Security Program Plan and the GSA EA Analytics & Reporting (GEAR) [website](#).

5.1.17 TASK P-17: Requirements Allocation

Controls are allocated based on the common, hybrid, and system specific designations identified in CIO-IT Security-18-90: Information Security Program Plan, GSA's various A&A processes, the Control Tailoring Workbook, and SSPP templates. GSA is also in the process of a control allocation mapping among its GSSs and Platforms to identify controls common or hybrid at those levels that systems can inherit. Allocation of controls to system components is the purview of the system owner in collaboration with the OCISO.

5.1.18 TASK P-18: System Registration

Program Managers and Project Managers collaborate with the GSA S/SOs as new systems are being considered for design, development, piloting, or implementation. GSA's ISSMs and ISSOs work closely with those offices and personnel to ensure systems are registered into the GSA system inventory as early as possible. Archer GRC is the repository for GSA's system inventory. Systems are registered in it as soon as they are identified and categorized as pending. They will stay in this status until they are placed into production.

5.2 RMF CATEGORIZE Step

From NIST SP 800-37, "*The purpose of the **Categorize** step is to inform organizational risk management processes and tasks by determining the adverse impact to organizational operations and assets, individuals, other organizations, and the Nation with respect to the loss of confidentiality, integrity, and availability of organizational systems and the information processed, stored, and transmitted by those systems.*"

The following tasks detail the actions in the RMF categorize step. Additional details may be found in CIO-IT Security-21-114: Clean Authorization to Operate (ATO)—this guide is under development. As GSA implements automation into its A&A processes, the tasks described in the following sections will be migrated, as much as possible, to GSA's implementation of Archer GRC.

5.2.1 TASK C-1: System Description

The information system is described throughout Sections 1-12 of the GSA SSPP template. The system owner in collaboration with the ISSO completes these sections of the SSPP. These sections cover the system's operational environment, hardware and software inventory, FIPS 199 security categorization, data, users, roles, architecture, connections, etc. Each section should be sufficiently detailed to permit readers to understand the business functions of the system, how the system architecture and components support those functions, how data is collected, processed, and transmitted internally and externally (i.e., data flow), the sensitivity of the data the system handles, the user base, and the key points of contact. The system owner in collaboration with the ISSO completes these sections of the SSPP.

5.2.2 TASK C-2: System Categorization

Use GSA's FIPS 199 Security Categorization Template to identify the information types handled by the system. Once completed it is summarized in Section of the SSPP with the completed FIPS 199 template attached to the SSPP. NIST SP 800-60 Volumes I and II are used to identify the information types handled by the system. The result of the system categorization is used in a future step to select security controls for the system. The data owner collaborates with the system owner and the ISSO to complete the template.

5.2.3 TASK C-3: System Categorization Review and Approval

The system FIPS 199 security categorization from the previous step must be reviewed and approved by the AO and CISO or their designated representatives. The CPO, or designated representative must approve the security categorization for systems with PII. Delegated representatives must be Federal employees. The ISSO collaborates with the AO, OCISO, Privacy Team, and data owner as necessary to have the FIPS 199 security categorization approved.

5.3 RMF SELECT Step

From NIST SP 800-37, "*The purpose of the **Select** step is to select, tailor, and document the controls necessary to protect the information system and organization commensurate with risk to organizational operations and assets, individuals, other organizations, and the Nation.*"

The following tasks detail the actions in the RMF select step. Additional details may be found in CIO-IT Security-21-114: Clean Authorization to Operate (ATO) Process)—this guide is under development. As GSA implements automation into its A&A processes, the tasks described in the following sections will be migrated, as much as possible, to GSA's implementation of Archer GRC.

5.3.1 TASK S-1: Control Selection

The system's FIPS 199 security categorization and PTA/PIAs determine the initial set of security controls that the system must meet/implement. GSA's various A&A processes, the CTW, and Section 9 of this guide further define the specific set of controls the system must implement.

The System Owner collaborates with the AO, ISSM, ISSO, and Privacy Team as necessary to complete the control selection task.

Note: Additional Federal requirements such as [DHS Cybersecurity Directives](#) must be included in a system's set of requirements when the system contains components to which they apply.

5.3.2 TASK S-2: Control Tailoring

After the security controls for a system have been selected in the previous task, tailoring of those controls commences. Tailoring includes:

- Determining common controls the system inherits;
- Assigning values to any parameters identified as being left up to the system for assignment and requiring GSA AO and CISO approval;
- Determining if any compensating or supplemental controls are required to address unique organizational and/or system specific needs. These needs may be based on a risk assessment (either formal or informal), local conditions including environment of operation, organization-specific security requirements, specific threat information, cost-benefit analyses, or special circumstances.

Justification or rationale for tailoring actions is required, especially where the CISO and AO must approve assignments and if any controls are identified as not applicable to the system or its environment.

Systems must complete a CTW and provide it as an attachment to the SSPP. The CTW identifies the GSA defined values for NIST SP 800-53 control assignments and selections. The selected security controls including any controls or enhancements selected above the baseline for the information system will be documented in the SSPP. Both the SSPP and the CTW identify parameter assignments or selections deferred to the S/SO or contractor for recommendation and approval by the GSA AO and CISO. The CTW contains columns for identifying the defined values and GSA approval of the values.

Similarly, systems must complete a CIS which identifies the control types (common, hybrid, system specific), implementation status (Fully Implemented, Partially Implemented, Planned, etc.), and responsibility (OCISO, GSS/Platform/System) for the system's controls. It will be updated in subsequent steps of the RMF process, including after security control implementation and following security assessment to document the results of the review.

The System Owner collaborates with the ISSM, ISSO, Privacy Team as necessary, and other System Owners (regarding common/hybrid controls) to complete control tailoring.

5.3.3 TASK S-3: Control Allocation

As part of Tasks P-5: Common Control Identification and P-17: Requirements Allocation the GSA OCISO and the system owner in collaboration with the OCSIO identified and allocated controls to the system. These controls were further defined in the previous two tasks. Now the system

owner collaborates with the ISSO to identify how controls have been allocated. This task includes verifying the common, hybrid, and system specific designations of controls and the components or elements within the system to which controls are allocated. For example, boundary protection controls may be allocated to components that manage and monitor the system boundary, access control to components that manage access to the system by users and other systems or between components of the systems. The details of control allocation must be documented in the SSPP. The System Owner collaborates with the ISSM, ISSO, Privacy Team as necessary, and other System Owners (regarding common/hybrid controls) to complete control allocation.

5.3.4   TASK S-4: Documentation of Planned Control Implementations

Systems must complete an SSPP using the GSA SSPP Template, including the appendices and attachments, as applicable, identified in Appendix C. The SSPP provides an overview of the security requirements for the information system and, in this step, describes the controls planned for implementation to provide a level of security appropriate for the information to be transmitted, processed, or stored by the system. Inherited controls should be included. Detailed instructions for completing the SSPP are in the GSA SSPP Template on the InSite IT Security Forms and Aids webpage; a brief summary of those instructions regarding controls is:

- Each control part must be addressed (e.g., Part a, Part b, etc.);
- Do not just reiterate the control statement. Describe the "who, what, when, where, and how" controls are implemented;
- Address the entire IT stack (e.g., OS, database, network, etc.) and all processes that implement a control;
- Describe how GSA-defined parameters are met;
- Ensure parameters deferred to S/SO or Contractor recommendation and AO and CISO approval are defined and it is described how those parameters are met;
- If controls are planned versus implemented, a time bound plan must be a part of the implementation details;
- If controls are identified as not applicable, a justification and supporting evidentiary artifacts must be presented.

The System Owner collaborates with the ISSO, Privacy Team as necessary, other System Owners (regarding common/hybrid controls), and others to complete the SSPP planned control implementations.

5.3.5   TASK S-5: Continuous Monitoring Strategy – System

Systems must develop a system-level strategy for monitoring its security controls. The system level strategy must be aligned with RMF Step Monitor and CIO-IT Security-12-66: Information Security Continuous Monitoring (ISCM) Strategy & Ongoing Authorization (OA) Program and CIO-IT Security-21-114: Management Implementation Plan)—this guide is under development. The strategy is to address monitoring of controls that are not monitored as part of GSA's ISCM strategy and the frequency of monitoring. It defines how system changes are monitored, how

risk assessed, and reporting on monitoring and the reporting of results. The System Owner collaborates with the ISSM, ISSO, Privacy Team as necessary, and others to establish the system-level continuous monitoring strategy.

5.3.6 TASK S-6: Plan Review and Approval

The SSPP must be reviewed and approved. The System Owner collaborates with the ISSM, ISSO, Data Owners, Privacy Team as necessary, and other System Owners (regarding common/hybrid controls), and others to complete the SSPP, including appendices and attachments.

For new systems under development, note that in the Select Step, implementation details may not be fully described since the exact implementation to satisfy control requirements may not be complete. When the SSPP has been completed by the System Owner, ISSO (and Vendor ISSO if applicable), and the ISSM it is signed by each of them. The SSPP and appendices/attachments as listed in Appendix C will be updated and completed as the security controls are implemented in RMF Implement Step.

Note: Approving the security plan via the signatures noted is an agreement that the set of security controls (system-specific, hybrid, and/or common controls) proposed to meet the security requirements for the information system are sufficient. This approval allows the next step in the RMF to commence (i.e., the implementation of the security controls).

The Security Engineering Division (ISE) in the OCISO must review and approve the Security Architecture before the system's security controls are implemented. Additional details on developing and having the SSPP approved are contained in CIO-IT Security-21-114: Clean Authorization to Operate (ATO)—this guide is under development. RMF Implement Step

5.4 RMF IMPLEMENT Step

From NIST SP 800-37, "*The purpose of the **Implement** step is to implement the controls in the security and privacy plans for the system and for the organization and to document in a baseline configuration, the specific details of the control implementation.*"

The following tasks detail the actions in the RMF Implement step. Additional details may be found in CIO-IT Security-21-114: Clean Authorization to Operate (ATO)—this guide is under development. As GSA implements automation into its A&A processes, the tasks described in the following sections will be migrated, as much as possible, to GSA's implementation of Archer GRC.

5.4.1 TASK I-1: Control Implementation

Describe the security and privacy control implementation in the SSPP; providing a functional description of how the control is satisfied. Security control implementation should be consistent with the GSA enterprise architecture and information security architecture. IT systems shall be configured and hardened using GSA IT security hardening guidelines (i.e.,

security benchmarks), NIST guidelines, Center for Internet Security guidelines, or industry best practice guidelines, as deemed appropriate by the AO.

To the greatest extent possible, systems are encouraged to conduct initial security control assessments (also referred to as developmental testing and evaluation) during information system development and implementation. Such testing conducted in parallel with the development and implementation of the system facilitates the early identification of weaknesses and deficiencies and provides the most cost-effective method for initiating corrective actions.

Systems leveraging a cloud solution must implement the customer responsibilities identified in the Cloud Service Provider's (CSP's) Customer Responsibility Matrix (CRM). Only customer responsibilities associated with NIST controls in the system's FIPS 199 control baselines must be addressed. For example, if a system is FIPS 199 Low and the CSP CRM includes FIPS 199 Moderate controls only the FIPS 199 Low controls will be addressed (and GSA OCISO specified controls, as necessary).

Federal requirements such as DHS Cybersecurity Directives include specific implementation instructions which must be adhered to secure the system and comply with the requirement.

The security control implementation descriptions should include planned inputs, expected behavior, and expected outputs (where appropriate) that are typical for technical controls. The SSPP should also address platform dependencies and include any additional information necessary to describe how the security capability required by the security control is achieved at the level of detail sufficient to support control assessment in RMF Step 4.

Security controls are documented in Section 13 of the SSPP. This section must provide a thorough description of how the NIST SP 800-53 security controls for the system are being implemented or planned to be implemented. Detailed instructions for completing the SSPP are in the GSA SSPP Template, on the InSite IT Security Forms and Aids webpage. For each control, descriptions must include:

- Describing how (including, what, when, where, and who) the security control is being implemented or planned to be implemented for all parts of the control;
- Identifying any scoping guidance that has been applied, including the type and;
- Explaining how all specified parameters have been met (i.e., not just stating they have been met-describe the how);
- Establishing time bound plans are described for planned controls;
- Ensuring controls identified as Not Applicable a rationale and supporting evidentiary artifacts must be provided.
- Systems with multiple components or subsystems must describe control implementations across all components.
- Systems leveraging a cloud solution must describe how the customer responsibilities in the CSP's CRM are implemented.

Systems leveraging a cloud solution must implement the customer responsibilities identified in the Cloud Service Provider's (CSP's) Customer Responsibility Matrix (CRM). Only customer responsibilities associated with NIST controls in the system's FIPS 199 control baselines must be addressed. For example, if a system is FIPS 199 Low and the CSP CRM includes FIPS 199 Moderate controls only the FIPS 199 Low controls will be addressed (and GSA OCISO specified controls, as necessary).

The System Owner collaborates with the ISSM, ISSO, Privacy Team as necessary, other System Owners (regarding common/hybrid controls), and others to complete all control implementations in the SSPP.

5.4.2 TASK I-2: Update Control Implementation

During development or in the course of operating and maintaining the system the implementation details of controls may change. Changes occur for many reasons, including by not limited to infeasibility of the design, new capabilities being made available, patches and upgrades to the system. The SSPP must be updated to reflect any changed implementation details so the SSPP always reflects the "as implemented" state of the system. In this manner when assessments, the next RMF step, occurs the assessors can determine if the system reflects its documented state or there are inconsistencies that need to be rectified.

The System Owner collaborates with the ISSM, ISSO, Privacy Team as necessary, other System Owners (regarding common/hybrid controls), and others to update control implementations in the SSPP as necessary.

5.5 RMF ASSESS Step

From NIST SP 800-37, "*The purpose of the **Assess** step is to determine if the controls selected for implementation are implemented correctly, operating as intended, and producing the desired outcome with respect to meeting the security and privacy requirements for the system and the organization.*"

The following tasks detail the actions in the RMF Assess Step. Additional details may be found in CIO-IT Security-21-114: Clean Authorization to Operate (ATO)—this guide is under development. As GSA implements automation into its A&A processes, the tasks described in the following sections will be migrated, as much as possible, to GSA's implementation of Archer GRC.

5.5.1 TASK A-1: Assessor Selection

The key to effective assessments is having assessors with the required skills, abilities, and technical knowledge to develop assessment plans, assess controls, and prepare assessment reports. The level of independence of assessors required at GSA is (as noted regarding NIST SP 800-53 control CA-2, Enhancement 1:

Independence is defined as when assessors do not: (i) have a mutual or conflicting interest with the organizations where the assessments are being conducted; (ii) assess their own work; (iii) act as management or employees of the organizations they are assessing; or (iv) place themselves in positions of advocacy for the organizations acquiring their services.

The GSA Lead Assessor selects the assessors for a system. Additional details on selecting assessors may be found in CIO-IT Security-21-114: Clean Authorization to Operate (ATO)—this guide is under development.

5.5.2 TASK A-2: Assessment Plan

Assessors must develop and obtain approval of a Security Assessment Plan (SAP) which will be leveraged to assess the security controls of the information system. The SAP will provide system background information, the objectives for the security control assessment, the assessment approach, and the assessment test cases to be used in Task A-3. Developing the plan may require updates and/or supplements to GSA's NIST 800-53 Revision 5 Test Cases. As necessary assessors will incorporate additional assessment test cases for any supplemented controls and/or control enhancements added during RMF Select step.

Note: Assessment of additional Federal requirements including, but not limited to, DHS Cybersecurity Directives (i.e., Binding Operational Directives and Emergency Directives) must be included in the SAP as appropriate.

The following security assessment requirements must be defined in the SAP and implemented for all information systems per its FIPS 199 impact level:

- **FIPS 199 Moderate** and **High** impact systems must be assessed by an independent third party. The use of an independent assessment team reduces the potential for impartiality or conflicts of interest, when verifying the implementation status and effectiveness of the security controls. Independence, per NIST, is impartiality where the assessors are free from any perceived or actual conflicts of interest with respect to the development, operation, and/or management of the information system or the determination of security control effectiveness.

- **All FIPS 199 impact level** information systems must conduct authenticated vulnerability scanning of their servers' operating systems as part of security assessment activities. Configuration/compliance scans shall be to GSA technical guidelines, NIST guidelines, Center for Internet Security guidelines, or industry best practice guidelines, as deemed appropriate and approved by the AO and CISO. Where a GSA benchmark exists, configuration scanning must be to the GSA benchmarks. Any scanning tool configured to support the benchmarks or guidelines identified may be used. Contact OCISO for information on the current tools in use or if there is a question about a specific tool.

- **All FIPS 199 impact level** information systems with web servers must conduct an authenticated vulnerability scan for the most current Open Web Application Security Project (OWASP) Top Ten Web Application Security Risks. Any scanning tool configured

to support the OWASP Top 10 may be used. Contact OCISO for information on the current tools in use or if there is a question about a specific tool. If necessary, manual testing and/or verification using the most current OWASP Testing Guide and/or CIO-IT Security-07-35: Web Application Security is also acceptable.

- **All FIPS 199 impact level** information systems with database servers will have their databases scanned as part of their OS vulnerability scanning.

- **All Internet accessible systems, FIPS 199 High impact level, and High Value Asset (HVA) information** systems, are required to complete an independent penetration test (or 'pentest') and provide a Penetration Test Report documenting the results of the exercise as part of the Assessment and Authorization (A&A) package. These tests will be conducted in accordance with CIO-IT Security-11-51: Conducting Penetration Test Exercises.

- **All FIPS 199 impact level** information systems are encouraged (and required per the Lightweight and MiSaaS authorization processes) by GSA OCISO to conduct a code analysis using tools to examine the software for common flaws and document the results in a Code Review Report per NIST SP 800-53 Control SA-11 enhancement (1).

The SAP must be reviewed and approved by the ISSO and ISSM to ensure the plan:

- includes all appropriate security controls;
- is consistent with system/organizational security objectives;
- employs required assessment tools and techniques;
- provides assessment test cases; and
- defines the scope of the assessment and any conditions or restrictions.

The overall purpose of the SAP approval is two-fold: (1) to establish the appropriate expectations for the security control assessment; and (2) to bound the level of effort for the security control assessment.

5.5.3   TASK A-3: Control Assessments

Assessors assess the security controls following the SAP and using the NIST 800-53, Revision 5 Test Cases, including any supplemental or updated tests based on the specific system as identified in Task A-2 (e.g., assessing BODs or other Federal requirements). The assessment determines if the controls implemented in the RMF Implement Step are operating as intended and producing the desired outcome with respect to meeting the security requirements for the information system. Systems leveraging cloud solutions must include assessing the implementation of customer responsibilities from a CSP's CRM in the assessment.

5.5.4   TASK A-4: Assessment Reports

Assessors prepare a Security Assessment Report (SAR) documenting the issues, findings, and recommendations of the security control assessment (including, if applicable, a penetration test report as an attachment). The SAR documents the assessment findings with recommendation(s) and risk determinations based on NIST SP 800-30 Revision 1, *"Guide for Conducting Risk*

Assessments." Multiple findings regarding the SSPP (Control PL-2) can be consolidated into one finding and associated with PL-2. All other findings (including scan findings) rated Low or above are reported individually in the SAR.

Additional information on addressing findings based on the source of findings (e.g., test cases, scans, pen tests) is provided in the SAR template available on InSite. The SAR will be included as part of the authorization package.

The risk assessment should consist of the following steps:

- Identify the list of threats and threat sources to the system. The list should include but not be limited to adversarial outsider and insider threats, accidental user threats, structural threats to its components and facilities, environmental threats to the systems facilities and supporting services.
- Align threat sources, impacts, and events with vulnerabilities.
- Assess each not fully met security control and vulnerability identified during the security assessment. Evaluating the likelihood that threat sources and events will exploit each identified vulnerability.
- Assess the possible impact to the system and GSA if the vulnerability was exploited.
- Make a determination of risk based on the likelihood the threat will exploit the vulnerability, and the resulting impact.
- Evaluate the risks of all identified vulnerabilities to determine an overall level of risk for the system or application.

Assessments must include vulnerability description, assessed risk, and recommendations for correcting the vulnerability. Assessment results for subsystems, if any, should be referenced, as appropriate, in the SAR.

Review and consider ALL risk categories in the process of preparing the final SAR. It is a common mistake to ignore some classes of vulnerabilities or findings since they are incorrectly believed to be "low risk." However, scanning tools generally categorize findings without context. They may identify false positive findings that are not real issues and false negative findings or "low/info risk" findings that may be real issues. A human reader with context and an understanding of how the system works and its environment will understand that some findings are more important than initially labeled. Moreover, low risk items often enhance the risk of other issues or can successfully be combined to generate higher risk. Once identified, they should be rated appropriately (i.e., no longer Low) in the final SAR. FIPS 199 Low or Moderate systems can possess Very High (Critical)/High risk findings the same as FIPS 199 High systems.

5.5.5   TASK A-5: Remediation Actions

Systems may perform initial remediation actions on security controls based on the findings and recommendations of the SAR and have the assessors reassess remediated control(s), as appropriate. Assessors should identify remediated vulnerabilities as "Remediated" in the final SAR. Similarly, any findings proven to be a false positive should be identified as "False Positive."

Additional instructions are provided in the SAR template on the InSite Forms and Aids [page]. The assessors in coordination with the System Owner, ISSO, and other system personnel validate remediated and false positive findings.

5.5.6   TASK A-6: Plan of Action and Milestones

The ISSO collaborates with the System Owner, other system personnel, and the ISSM and prepares the POA&M as follows:

POA&Ms based on the vulnerabilities and recommendations included in the SAR:

- Do not include in the POA&M vulnerabilities identified as ''Remediated" or "False Positive" in the SAR.
- Include in the POA&M all other vulnerabilities (including scan findings) in the SAR as individual POA&Ms.

POA&Ms based on other assessments:

- All findings from audits become individual POA&Ms.
- All findings indicating End-of-Life (EOL) software become individual POA&Ms.
- Vulnerability Scans
  - o External Vendor/Contractor systems – all vulnerabilities Low and above become individual POA&Ms if the timeframes for remediation listed below are exceeded.
  - o Internal systems – all vulnerabilities Moderate and above become individual POA&Ms if the timeframes for remediation listed below are exceeded.
    - Critical/Very High vulnerabilities:
      - Internet-accessible IP addresses must be remediated within 15 days;
      - All other assets must be remediated within 30 days.
    - High vulnerabilities must be remediated within 30 days;
    - Moderate vulnerabilities must be remediated within 90 days;
    - Low vulnerabilities for External Vendor/Contractor systems must have POA&Ms established within 90 days, however there is no deadline for remediation.
- Configuration/Compliance Scans. A FISMA system must monitor compliance to all the configuration settings required by GSA hardening guides. Each configuration setting must be covered by one of the following clauses:
  - o The configuration setting is compliant - The asset's setting is either
    - Equal to the setting required, or
    - More restrictive than the setting required.
  - o The configuration setting is not compliant - The asset is configured with a more liberal setting than required. In this case, the non-compliant configuration setting needs to be accounted for in one of the following ways:
    - Deviation - The non-compliant setting is covered by an approved deviation.
    - POA&M - If the composite compliance percentage of all assets with a single operating system is below 85% for over 90 days, a POA&M must be created for the non-compliant operating system. The resultant POA&M will state:

> *"Configuration/compliance scans indicate that [ENTER OPERATING SYSTEM] has been below 85% compliant for over 90 days."*

Note: GSA systems not being scanned under GSA's vulnerability scanning program must provide supporting scan reports to the OCISO ISP Division as part of updating the POA&M via the POA&M Google Shared Drives. Scan folders are located inside of appropriate system Shared Drives for ISSOs to upload vendor provided scans.

The POA&M describes how the System Owner intends to address vulnerabilities (i.e., reduce, eliminate, or mitigate vulnerabilities). A POA&M Template and details on developing POA&Ms are contained in the POA&M procedural guide and on the POA&M Guidance Google Shared Drive. A GSA POA&M Template may be obtained by contacting ispcompliance@gsa.gov.

Update the SSPP to reflect the results of the security assessment and any modifications to the security controls in the information system. This is necessary to account for any modifications made to address recommendations for corrective actions from the security assessor. Following completion of security assessment activities, the SSPP should reflect the actual state of the security controls implemented in the system. Update the GSA CTW and applicable Control Implementation Summary Table. The updated documents must be included as appendices to the SSPP.

Note: GSA tracks all POA&Ms on [POA&M Shared Drives](#) which serve as the primary tool for the management, storage, and dissemination of GSA system and program POA&Ms.

5.6   RMF AUTHORIZE Step

From NIST SP 800-37, "*The purpose of the **Authorize** step is to provide organizational accountability by requiring a senior management official to determine if the security and privacy risk (including supply chain risk) to organizational operations and assets, individuals, other organizations, or the Nation based on the operation of a system or the use of common controls, is acceptable.*"

The following tasks detail the actions in the RMF Authorize Step. Additional details may be found in CIO-IT Security-21-114: Clean Authorization to Operate (ATO)—this guide is under development. As GSA implements automation into its A&A processes, the tasks described in the following sections will be migrated, as much as possible, to GSA's implementation of Archer GRC.

5.6.1   TASK R-1: Authorization Package

The ISSO assembles the security authorization package. For GSA's Standard A&A process, the security authorization package includes:

- SSPP (with all appendices and attachments);
- Security Assessment Report (with all appendices and attachments);
- POA&M;
- Certification Memorandum;

- ATO Letter.

Note: The documents outlined for the Security Authorization Package (above) are required for the GSA Standard A&A Process. The documentation required and links to document templates for other A&A processes GSA uses (and the standard process) are listed in [Appendix C](#).

5.6.2   TASK R-2: Risk Analysis and Determination

The AO makes the risk level determination. To do so, the AO assesses all the information documented in the Security Authorization Package regarding the current security state of the system or the common controls inherited by the system and the recommendations for addressing any residual risks. The AO consults with the CISO, System Owner, ISSM, ISSO, and others as necessary to determine if the package provides enough information to establish a credible level of risk.

5.6.3   TASK R-3: Risk Response

The AO in consultation with the CISO, System Owner, ISSM, ISSO, and others as necessary determines if the residual risks in operating the system need to be mitigated or can be accepted and managed via POA&Ms prior to authorization. As part of risk response prioritization of risks POA&Ms can be prioritized to focus resources on the POA&Ms that will have the greatest impact in reducing risk.

5.6.4   TASK R-4: Authorization Decision

The explicit acceptance of risk is the responsibility of the AO. The AO determines if the risk to organizational operations, organizational assets, individuals, other organizations, or the Nation is acceptable. The AO must consider many factors, balancing security considerations with mission and operational needs. The AO issues an authorization decision for the information system and the common controls inherited by the system after reviewing all of the relevant information. The AO must determine if the remaining known vulnerabilities in the information system pose an acceptable level of risk to agency operations, assets, and individuals and determine if the risk to the agency is acceptable.

The preparation and routing for review and signature of the system's authorization package is detailed in CIO-IT Security-21-114)—this guide is under development—and is summarized as follows:

- IST quality checks and validates the package and prepares a Certification Memorandum and uploads documents to Archer GRC (if not already uploaded).
- ISP reviews Archer GRC to ensure the entire package is present, then reviews the package for completeness and consistency.
- ISP coordinates with the ISSM on the preparation of the ATO Letter and uploads it to Docusign.
- The CISO reviews the package and coordinates with the ISSM and others and signs the letter (or directs changes).

- The AO is briefed and base on the evidence provided and whether it establishes an acceptable risk decides to:
  - o Authorize system operation without any restrictions or limitations on its operations.
  - o Authorize system operation with restrictions/limitations on its operations. The POA&M must include detailed corrective actions to correct the deficiencies requiring the restrictions/limitations. The ISSM/ISSO must resubmit an updated authorization package upon completion of required POA&M actions to move to a full ATO without any restrictions/limitations.
  - o Not authorize the system for operation.

5.6.5   TASK R-5: Authorization Reporting

Authorization decisions are reflected in the system information in Archer GRC with high-level A&A metric data published organization-wide on the (GEAR) [website](#). Any risks that need to be raised to the enterprise level are reported through the ERES and EMB. The CISO is co-chair of the ERES with members from GSA S/SO/Rs to ensure appropriate risks are raised that may influence GSA's strategy, budget planning, and resource allocation decisions.

5.7   RMF MONITOR Step

From NIST SP 800-37, "The purpose of the **Monitor** step is to maintain an ongoing situational awareness about the security and privacy posture of the information system and the organization in support of risk management decisions."

The following tasks detail the actions in the **Error! Not a valid bookmark self-reference.**. As GSA implements automation into its A&A processes, the tasks described in the following sections will be migrated, as much as possible, to GSA's implementation of Archer GRC.

5.7.1   TASK M-1: System and Environment Changes

System Owners must determine the security impact of proposed or actual changes to the information system and its operational environment. Per CIO-IT Security-01-05, proposed system changes must be evaluated to determine potential security impacts. An impact analysis of each proposed change will be conducted using the following as a guideline:

- Whether the change is viable and improves the performance or the security of the system;
- Whether the change is technically correct, necessary, and feasible within the system constraints;
- Whether system security will be affected by the change;
- Whether associated costs for implementing the change were considered; and
- Whether security components are affected by the change.

As outlined within CIO-IT Security-18-91 GSA has a rigorous configuration change management process. The RMS states:

- IT changes are to be requested through a defined CM approval process (e.g., a chartered Configuration Control Board [CCB]) that documents the nature of the change, the criticality, impacts on the user community, testing and rollback procedures, stakeholders, and points of contact.
- System changes are to be tested and validated prior to implementation into the production environment.
- Configuration settings and configuration baselines are to be updated as necessary to meet new technical and/or security requirements and are controlled through the CM process.

Changes may be required by outside influences. For example, if a successful exploit or identified vulnerability can be resolved or mitigated by configuration or process changes, the same CM process described above must be followed to ensure the resolution does not have unintended consequences.

5.7.2 TASK M-2: Ongoing Assessments

System Owners are responsible for assessing a subset of the NIST SP 800-53 security controls employed within and inherited by the information system in accordance with GSA's monitoring strategy. Per CIO-IT 01-05, the implemented CM process calls for continuous system monitoring to ensure that systems are operating as intended and that implemented changes do not adversely impact either the performance or security posture of the systems. Per CIO-IT Security-04-26, GSA's annual FISMA self-assessments will assess a subset of security controls. Controls are selected based on an analysis of past audit findings, known weaknesses or controls that have resulted in security breaches, key controls (e.g., Showstopper controls, critical controls), and volatile controls that should be assessed frequently. Ongoing assessments include penetration tests and OIG audits that are performed on systems.

GSA conducts ongoing assessments by leveraging its deployment of Continuous Diagnostics and Mitigation (CDM) and other Enterprise Security Management tools. GSA's tool stack facilitates the ongoing assessments of GSA information systems by performing vulnerability scans and checking the configuration settings of systems against GSA required hardening or benchmarks.

5.7.3 TASK M-3: Ongoing Risk Response

ISSOs, System Owners, and system, network, and database administrators, will coordinate and perform remediation actions based upon the results of ongoing monitoring activities, assessment of risk, and outstanding items in the system's POA&M. CIO-IT Security-01-05 outlines the implementation of a CM process designed to lower the potential risk to a network by requiring regular "patching" or repairing of known vulnerabilities. CIO-IT Security-01-05 addresses the required steps for implementing changes; Identifying Changes, Evaluating Change Requests, Decision Implementation, and Implementing Approved Change Requests. Per CIO-IT Security-18-91, risk mitigation shall be the appropriate risk response for all critical/very high and high risks vulnerabilities that can be exploited from the Internet and cannot be accepted, avoided, shared, or transferred. Critical/Very High vulnerabilities for Internet-accessible IP addresses must be remediated within 15 days, for all other assets Critical/Very High

vulnerabilities must be remediated within 30 days; High vulnerabilities must be remediated within 30 days; Moderate vulnerabilities must be remediated within 90 days, and low/very low risk vulnerabilities will be addressed on a case-by-case basis. Risk mitigation strategies may include business process improvements, applying timely patches, configuring systems securely, performing secure application code development, and implementing architecture and design modifications as necessary. Risk mitigation measures will be employed based on prioritization. Some of the risk prioritization assessment criteria may include the probability of vulnerability exploitation, material business impact if vulnerability is successfully exploited, compliance requirements, cost and business impact of remediation activities and controls.

Specific categories of risks as described below may be accepted.

Acceptance of Risk (AOR) Letters. AOR letters are intended for rare or unusual circumstances where the System Owner has limited or no control over the remediation of an identified vulnerability. Examples of such circumstances include:

- Embedded software dependencies;
- COTS product update timelines; and
- Compatibility issues between components.

AORs are not intended for delayed or ineffective flaw remediation processes (i.e., patching), insufficient out-year System Development Life Cycle planning (for legacy components), or System Owner preferences. AOR requests must include mitigating factors, compensating controls, and any other action(s) taken to reduce the risk to the system and its data, and a justification for why the vulnerability cannot be resolved. AOR letters have a maximum duration of one year. Upon expiration a new AOR letter may be requested, however it must include new details as to why the vulnerabilities must remain unresolved. AOR letters received without such additional detail will not be approved. Based on the criteria above, AOR letters are:

- Not required for Very Low/Low risk vulnerabilities and findings.
- Required for Moderate risk vulnerabilities and findings. Moderate risk AOR letters require AO approval, but not CISO concurrence.
- Required for Critical/Very High/High risk vulnerabilities and findings. Critical/Very High/High risk AOR letters require AO approval and CISO concurrence.

AOR Letter Processing. AOR letters are processed in the following manner:

1. System Owner/Custodian, ISSO, and ISSM determine the need for an AOR letter based on system POA&Ms.
2. ISSO in conjunction with the ISSM prepares the AOR letter, ensuring an AOR number is added to the footer of the letter.
3. Director of IST notifies the CISO if review and discussions with all stakeholders is appropriate.
4. ISSM submits AOR letter and recommendation to:

a. AO for approval for Moderate risk vulnerabilities; or
   b. AO for approval and CISO concurrence for Critical/Very High/High risk vulnerabilities.
5. Approved AOR letters become part of the permanent A&A package maintained by the ISSO and ISSM. AOR letters must be uploaded into the Archer GRC A&A Repository and an email sent to ispcompliance@gsa.gov indicating an AOR letter has been uploaded.
6. The ISSO is responsible for monitoring POA&Ms and AOR letters. After one year:
   a. If POA&Ms listed in the AOR letter are still unresolved, a new AOR letter is required with additional details on why the vulnerabilities/findings are unresolved.
   b. If all POA&Ms have been resolved, then the AOR letter is noted as completed and archived as a historical record of the system's A&A status.

5.7.4   TASK M-4: Authorization Package Updates

The System Owner and ISSO will update the following items as part of the system and GSA continuous monitoring plans, processes, and program.

- SSPP (and all appendices and attachments);
- POA&M.

The updates will be based on regular updates required by GSA processes, such as:

- Vulnerability scans from GSA's scanning program;
- Annual FISMA self-assessments;
- Penetration tests;
- Audits, or related assessments;
- Changes identified as part of a system's CM Plan;
- For systems in the GSA OA Program, performance metrics established as part of ongoing authorization per CIO-IT Security-12-66.

As part of the CM process outlined within CIO-IT Security-01-05, security testing will be conducted following major or significant system changes. If the changes introduce vulnerabilities, actions to mitigate the vulnerabilities must be included in the system's POA&M, per GSA's POA&M management process, for tracking of the resolution. The SSPP will be updated to reflect any changes.

5.7.5   TASK M-5: Security and Privacy Reporting

The System Owner and ISSO will report the security and privacy status of the information system (including the effectiveness of security and privacy controls employed within and inherited by the system) to the AO and other appropriate organizational officials on an ongoing basis. GSA's vulnerability management program, the POA&M management process, privacy program, and any required reporting processes/capabilities (e.g., FISMA, OA, CDM) will be used to provide security and privacy status reporting. AOs and other personnel with security and

privacy related responsibilities will leverage these resources to keep apprised of the risk levels associated with GSA's system(s).

5.7.6 TASK M-6: Ongoing Authorization

GSA's OA Program as described in CIO-IT Security-12-66 relies on GSA's continuous monitoring strategy. That strategy leverages both manual and automated processes to monitor a system's security and privacy controls. The objective of the strategy is to ensure all key information security and privacy controls are periodically assessed for effectiveness. It leverages GSA's deployment of CDM and other [Enterprise Security Management tools](#) to monitor the security of GSA's systems. CIO-IT Security-12-66 provides more details on how GSA continuously monitors vulnerabilities, threats, and actions taken to reduce, mitigate, or eliminate them. Key components of GSA's strategy are regular vulnerability scanning activities and security configuration checks, the requirement to maintain A&A documents in an "as-is" state, management and review of POA&Ms, and ISSO Checklists within Archer GRC.

In order to enter into the OA Program systems must meet prerequisites defined in CIO-IT Security-12-66 and successfully complete the onboarding process which includes completion of a checklist verifying the security status of the system, review of GSA's OA and showstopper controls, review of system artifacts, verifying that GSA security tools are in place and monitoring the system. The GSA OA Team coordinates with System Owner, ISSM, and ISSO during the onboarding process and semi-annual performance reviews for systems in the OA Program.

5.7.7 TASK M-7: System Disposal

System Owners and ISSOs must manage systems from inception through disposal in accordance with CIO Order 2140.4, "*Information Technology (IT) Solutions Life Cycle (SLC) Policy.*" In support of system disposal system owners will document the transfer and/or disposal of GSA IT Systems using GSA's Transfer and Disposal Notification Templates and in accordance with the provisions outlined within CIO 2100.1.

5.8 A&A Guidance for Significant Changes

Significant changes as defined in NIST SP 800-37, Appendix F, require reauthorization following the security authorization process requirements in this guide. Contact the OCISO at ispcompliance@gsa.gov to determine the scope of reauthorization activities.

5.9 A&A Guidance for Expiring Authorizations

ISSOs, ISSMs, and the IST Director can track the expiration dates of ATOs using GSA's implementation of Archer GRC. Renewals of ATOs are initiated by the Authorizing Officials, ISSMs, and ISSOs. Per Chapter 3, Section 3, Governance, of GSA CIO 2100.1:

> m. *Extension of a system's current ATO for a period not to exceed one year (365 days) may only be requested under one of the following conditions. The system must continue to*

maintain its complete set of A&A documentation (e.g., System Security Plan, Contingency Plan, POA&Ms). All actions to satisfy the conditions below must be completed within the extension period (i.e., no longer than 12 months).

(1) *Transitioning to ongoing authorization;*

(2) *Planning for disposal;*

(3) *Consolidating into another system for its ATO. The scope of consolidation shall be approved by the OCISO prior to submitting the ATO extension request;*

(4) *Transitioning into a cloud environment for its ATO. The scope of the transition into the cloud environment shall be approved by the OCISO prior to submitting the ATO extension request;*

(5) *Re-competing the system's contract;*

(6) *Completing the upgrade/replacement of major infrastructure components;*

(7) *Completing the system's security assessment has been delayed due to contract issues; or*

(8) *Complying with Showstopper controls as listed in CIO-IT Security-06-30.*

n. An information system undergoing a three-year re-authorization having outstanding high or very high/critical vulnerabilities identified during its security assessment, may request a one-time extension for a period not to exceed thirty (30) days from the date of the ATO expiry to allow mitigation of the high and very high/critical vulnerabilities. No more than two extensions may be granted under this condition.

Note: The CISO may also grant extensions on a case-by-case basis due to extenuating circumstances.

Questions concerning the security authorization process, significant changes, or expiring ATOs can be directed to your designated ISSM.

6   Protecting Confidential Unclassified Information (CUI) in Nonfederal Systems and Organizations

GSA CIO-IT Security-21-112, "*Protecting Controlled Unclassified Information (CUI) in Nonfederal Systems and Organizations Process,*" is being developed and will define the processes and procedures that will be used to ensure nonfederal systems protect CUI in accordance with the requirements of NIST SP 800-171, Revision 2, "*Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations.*" The requirements identified in both documents are applicable under the following conditions:

- CUI is resident in a nonfederal system and organization;

- the nonfederal organization is not collecting or maintaining information on behalf of a federal agency or using or operating a system on behalf of an agency;[2] and
- there are no specific safeguarding requirements for protecting the confidentiality of CUI prescribed by the authorizing law, regulation, or governmentwide policy for the CUI category listed in the CUI Registry.[3]

The requirements apply only to components of nonfederal systems that process, store, or transmit CUI, or that provide security protection for such components.

7   Independent Assessment of Enterprise-wide Common and Hybrid Controls

GSA CIO-IT Security-18-90, "*Information Security Program Plan (ISPP),*" fulfills the requirement for a security program per NIST SP 800-53, Control PM-1, Information Security Program Plan. NIST SP 800-37, requires that common controls be assessed and authorized. The controls in the ISPP (both common and the common portion of hybrid controls) are assessed at least every three (3) years and authorized for use similar to any system as described in Sections 5.5 and 5.6.

8   GSA Implementation of CA, PL, and RA Controls

NIST SP 800-53 defines controls related to the security authorization process that GSA is required to implement based on an information system's security categorization. The Security Assessment and Authorization (CA), Planning (PL), and Risk Assessment (RA) control family implementations are addressed in this guide. Only those controls applicable at any FIPS 199 Level in accordance with NIST SP 800-53B are included in this section.

8.1   Security Assessment and Authorization (CA)

8.1.1   CA-1 Policy and Procedures

Control:
  a. Develop, document, and disseminate to [*personnel with IT security responsibilities as defined in GSA CIO Order 2100.1*]:
      1. [*Organization-level*] assessment, authorization, and monitoring policy that:
          (a)   Addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and
          (b)   Is consistent with applicable laws, executive orders, directives, regulations, policies, standards, and guidelines; and

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[2] Nonfederal organizations that collect or maintain information *on behalf of* a federal agency or that use or operate a system *on behalf of* an agency, must comply with the requirements in the Federal Information Security Modernization Act (FISMA), including the requirements in [FIPS 200] and the security controls in [SP 800-53] (See [44 USC 3554] (a)(1)(A)).

[3] The requirements in NIST SP 800-171 can be used to comply with the [FISMA] requirement for senior agency officials to provide information security for the information that supports the operations and assets under their control, including CUI that is resident in nonfederal systems and organizations (See [44 USC 3554] (a)(1)(A) and (a)(2)).

    2. Procedures to facilitate the implementation of the assessment, authorization, and monitoring policy and the associated assessment, authorization, and monitoring controls;

  b. Designate an [*CISO*] to manage the development, documentation, and dissemination of the assessment, authorization, and monitoring policy and procedures; and

  c. Review and update the current assessment, authorization, and monitoring:

    1. Policy [*annually, as part of CIO 2100.1, GSA IT Security Policy*] and following [*changes to Federal or GSA policies, requirements, or guidance*]; and

    2. Procedures [*at least every three (3) years*] and following [*changes to Federal or GSA policies, requirements, or guidance*].

GSA Implementation Guidance:

The GSA security assessment and authorization policy is defined in the GSA IT Security Policy, CIO 2100.1, which addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance regarding assessing and authorizing systems for GSA. This policy is disseminated GSA-wide via GSA's InSite centralized agency website.

Security assessment and authorization procedures are documented in this guide. Additional security and assessment guides for specific types of systems have been developed and are referenced in this guide. The procedures in these guides facilitate the security assessment and authorization of all GSA systems. The guides are disseminated GSA-wide via GSA's InSite centralized agency website.

The GSA CISO is responsible for managing the development, documentation, and dissemination of the policies and procedures for GSA IT.

The GSA OCISO is responsible for reviewing and updating CIO 2100.1 annually.

The GSA OCISO is responsible for reviewing and updating CIO-IT Security 06-30 at least every three (3) years and following changes to Federal or GSA policies, requirements, or guidance.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.1.2 CA-2 Control Assessments

Control:

  a. Select the appropriate assessor or assessment team for the type of assessment to be conducted

  b. Develop a control assessment plan that describes the scope of the assessment including:

    1. Controls and control enhancements under assessment;

    2. Assessment procedures to be used to determine control effectiveness; and

    3. Assessment environment, assessment team, and assessment roles and responsibilities;

   c. Ensure the control assessment plan is reviewed and approved by the authorizing official or designated representative prior to conducting the assessment;

   d. Assess the controls in the system and its environment of operation [*annually*] to determine the extent to which the controls are implemented correctly, operating as intended, and producing the desired outcome with respect to meeting established security and privacy requirements;

   e. Produce a control assessment report that document the results of the assessment; and

   f. Provide the results of the control assessment to [*personnel with system security responsibilities as identified in CIO 2100.1 and CIO-IT Security 06-30*].

Control Enhancements:
(1) Control Assessments | Independent Assessors – employ independent assessors or assessment teams to conduct control assessments.
(2) Control Assessments | Specialized Assessments – Include as part of control assessments [*annual*], [*announced*], [*penetration testing*].

GSA Implementation Guidance:
GSA requires a security control assessment to be performed for all information systems as part of the security authorization/re-authorization process. The security control assessment must include GSA's NIST 800-53 Test Cases. The security control assessment must document the implementation status in sufficient detail in order to assist in determining the overall effectiveness of all controls and enhancements that have been selected and implemented for the system as per FIPS-199 impact level.

GSA's process for performing a security control assessment is fully defined in Section 5.5 of this guide, RMF Assess Step. The results of the security control assessment must be documented in a SAR.

As per CA-2, Enhancement (1), GSA FIPS 199 Moderate and High Impact Systems must be assessed by an independent third party. All FIPS 199 Low external vendor/contractor systems must be assessed by an independent third party. The use of an independent assessment team reduces the potential for impartiality or conflicts of interest, when verifying the implementation status and effectiveness of the security controls.

As per CA-2, Enhancement (2), requires GSA FIPS 199 High Impact Systems to be assessed annually, via announced penetration tests. Penetration testing provides a more thorough analysis of the implementation effectiveness of security controls associated with an information system.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.1.3　CA-3 Information Exchange

Control:

a. Approve and manage the exchange of information between the system and other systems using [*interconnection security agreements as applicable per 06-30 and documented in the system's SSPP interconnection section (Tables 11-1 and 11-2)*];

b. Document, as part of each exchange agreement, the interface characteristics, security and privacy requirements, controls, and responsibilities for each system, and the impact level of the information communicated; and

c. Reviews and updates Interconnection Security Agreements [*at least annually*].

Control Enhancements:

(6) Information Exchange | Transfer Authorizations – verify that individuals or systems transferring data between interconnecting systems have the requisite authorizations (i.e., write permissions or privileges) prior to accepting such data.

GSA Implementation Guidance:

The focus of this control is to ensure that any persistent connection to any other information system outside of the system's authorization boundary has been approved by the AO, identified and documented within the SSPP, and monitored on an ongoing basis.

GSA CIO 2100.1 outlines the following interconnection requirements:

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1.d　All interconnections between GSA and external entities including off-site contractors or Federal agency/departments must be documented in an Interconnection Security Agreement (ISA) that is approved by the AOs and concurred by the GSA CISO. ISA's must, at a minimum, be reviewed annually. See NIST SP 800-47, Security Guide for Interconnecting Information Technology Systems for detailed information.

1.f　All system interconnections, including connections to external systems, must be documented in a system's SSPP.

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6.o.　If GSA systems interconnect, they must connect using a secure methodology that provides security commensurate with the acceptable level of risk as defined in the system security plan and that limits access only to the information needed by the other system IAW GSA CIO-IT Security-01-07 and GSA CIO-IT Security-06-30All interconnections between GSA and external entities including off-site contractors or Federal agency/departments must be approved by the GSA CISO.

Per NIST 800-47, an interconnection is the direct connection of two or more IT systems for the purpose of sharing data and other information resources through a pipe, such as ISDN, T1, T3, DS3, VPN, API, etc. The terms "connection" or "interconnection" in this case, means any on-going, persistent or substantial interaction with any information system(s) that is located outside of the authorization boundary. These connections can be physical and/or logical, and include data entering or exiting to/from the authorization boundary. User-controlled

connections such as email, ftp, remote access, and web browsing are not considered interconnections and therefore do not apply to this control.

As per CA-3, Enhancement (6), GSA FIPS 199 High Impact Systems must ensure the appropriate authorizations (i.e., write permissions or privileges) between the individuals or systems transferring data between the interconnection systems have been verified prior to accepting such data.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.1.4   CA-5 Plan of Action and Milestones

Control:
a. Develop a plan of action and milestones for the system to document the planned remediation actions of the organization to correct weaknesses or deficiencies noted during the assessment of the controls and to reduce or eliminate known vulnerabilities in the system; and
b. Update existing plan of action and milestones [*at least quarterly*] based on the findings from control assessments, independent audits or reviews, and continuous monitoring activities.

GSA Implementation Guidance:
The focus of this control is to ensure that all information systems have developed a POA&M in accordance with CIO-IT 09-44 which details the POA&M processes and procedures for meeting the requirements of this control.

On a quarterly basis, POA&Ms must be provided to the OCISO in order to monitor agency-wide remediation efforts as required by OMB policy. These updates should be performed as POA&M updates occur throughout the fiscal year using the system POA&M which is maintained by the system ISSO or ISSM and located on the system [POA&M Share Drives](#) for OCISO review. The POA&M Shared Drives serve as the primary location for managing and communicating GSA's system and program POA&Ms, and are available internally at GSA, or via VPN. New systems that are currently undergoing security authorization process or that have not been included in the GSA FISMA inventory must use the POA&M Template available on the [POA&M Guidance Shared Drive](#) or by contacting ispcompliance@gsa.gov.

Additional Contractor System Considerations:
Contractor systems must provide POA&Ms through their ISSO(s) as contractors will not have access to the POA&M Shared Drives. ISSOs supporting these systems must facilitate POA&M updates by sending the current version of the system POA&M together with the OCISO guidance to the contractor representative(s). Upon receipt of the POA&M from the contractor, ISSOs shall review the POA&M to ensure it is updated and includes required vulnerabilities before updating the POA&M on the GSA POA&M Shared Drives.

8.1.5   CA-6 Authorization

Control:
   a. Assign a senior official as the authorizing official for the system;
   b. Assign a senior official as the authorizing official for common controls available for inheritance by organizational systems;
   c. Ensure that the authorizing official for the system, before commencing operations:
       1. Accepts the use of common controls inherited by the system; and
       2. Authorizes the system to operate;
   d. Ensure that the authorizing official for common controls authorizes the use of those controls for inheritance by organizational systems;
   e. Update the authorizations [*as specified in CIO-IT Security-06-30 and GSA's other Assessment and Authorization processes identified therein*].

GSA Implementation Guidance:
The focus of this control is to ensure all information systems have been authorized to operate before being placed into operational status. All information systems adhering to the GSA Standard A&A process must undergo authorization/reauthorization every three years or when there is a significant change as defined in NIST SP 800-37, Appendix F, following the security authorization process documented in Section 5 of this guide, RMF Assess Step. Additional A&A or authorization types exist in GSA and are described in Section 4 of this document.

The explicit acceptance of *risk* is the responsibility of the AO. The AO must consider many factors, balancing security considerations with mission and operational needs. The AO issues an authorization decision for the information system and the common controls inherited by the system after reviewing the security authorization package submitted by the System Owner. The security authorization package provides the AO with the essential information needed to make a credible risk-based decision on whether to authorize operation of the information system.

For GSA's Standard A&A process, the security authorization package includes:

- SSPP (with all appendices and attachments);
- Security Assessment Report (with all appendices and attachments);
- POA&M;
- Certification Memorandum;
- ATO Letter.

Note: The documents outlined for the Security Authorization Package (above) are required for the GSA Standard A&A Process. The documentation required and links to document templates for other A&A processes GSA uses (and the standard process) are listed in Appendix C.

The AO must determine if the remaining known vulnerabilities in the information system pose an acceptable level of risk to agency operations, assets, and individuals and determine if the risk to the agency is acceptable. Following review of the security authorization package and consultation with key agency officials, the AO must render an authorization decision to:

- Authorize system operation without any restrictions or limitations on its operation;
- Authorize system operation with restrictions/limitations on its operations. The POA&M must include detailed corrective actions to correct the deficiencies requiring the restrictions/limitations. The ISSM/ISSO must resubmit an updated authorization package upon completion of required POA&M actions to move to a full ATO without any restrictions/limitations; or
- Not authorize the system for operation.

Questions concerning the security authorization process, significant changes, or CIO 2100.1 can be directed to ispcompliance@gsa.gov.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.1.6   CA-7 Continuous Monitoring

Control:
Develop a system-level continuous monitoring strategy and implement continuous monitoring in accordance with the organization-level continuous monitoring strategy that includes:

a. Establishing the following system-level metrics to be monitored: [*metrics as defined in CIO-IT Security-12-66*];
b. Establishing [*monthly*] for monitoring and [*annually*] for assessment of control effectiveness;
c. Ongoing control assessments in accordance with the continuous monitoring strategy;
d. Ongoing monitoring of system and organization-defined metrics in accordance with the continuous monitoring strategy;
e. Correlation and analysis of information generated by control assessments and monitoring;
f. Response actions to address results of the analysis of control assessment and monitoring information; and
g. Reporting the security and privacy status of the system to [*Information System Security Manager, Information System Security Officer, System Owners, Acquisitions/Contracting Officers, Custodians*] [*monthly*].

Control Enhancements:

(1) Continuous Monitoring | Independent Assessment – employ independent assessors or assessment teams to monitor the controls in the system on an ongoing basis.
NOTE: Independence is waived for all annual testing (i.e., testing can be internally performed).
(4) Continuous Monitoring | Risk Monitoring – Ensure risk monitoring is an integral part of the continuous monitoring strategy that includes the following:
   (a) Effectiveness monitoring;
   (b) Compliance monitoring; and
   (c) Change monitoring.

GSA Implementation Guidance:

GSA OCISO has established monthly and annual continuous monitoring performance metrics to be monitored and assessed in CIO-IT Security-12-66. GSA OCISO requires systems to complete an annual FISMA Self-Assessment (unless a full assessment has been completed) in addition to the use of Continuous Diagnostics and Mitigation (CDM) and other Enterprise Security Management tools to continually assess the security status of systems. GSA leverages its deployment of CDM and other Enterprise Security Management tools, their dashboards, and reports to correlate findings and analyze them. System owners, ISSOs, ISSMs, and system personnel are responsible for addressing findings from annual assessments and results from GSA's CDM and other Enterprise Security Management tools in accordance with CIO-IT this guide and CIO-IT Security-17-80. GSA leverages its deployment of CDM and other Enterprise Security Management tools, their dashboards, and reports to inform personnel with security responsibilities for systems the status of their systems in accordance with CIO-IT Security-06-30 and CIO-IT Security-17-80.

As per CA-7, Enhancement (2), GSA FIPS 199 Moderate and High Impact Systems must be assessed by an independent third party. The use of an independent assessor/assessment team reduces the potential for impartiality or conflicts of interest, when verifying the implementation status and effectiveness of the security controls.

As per CA-7, Enhancement (4), GSA FIPS 199 Low, Moderate, and High Impact Systems must use manual and automated processes to monitor security and privacy controls. GSA's organizational continuous monitoring strategy leverages its deployment of CDM and other Enterprise Security Management tools to monitor the security of GSA's systems. CIO-IT Security-12-66: Information Security Continuous Monitoring (ISCM) Strategy & Ongoing Authorization (OA) Program provides more details on how GSA continuously monitors for vulnerabilities, threats, and actions taken to reduce, mitigate, or eliminate them. Key components of GSA's strategy are regular vulnerability scanning activities and security configuration checks, the requirement to maintain A&A documents in an "as-is" state, management and review of POA&Ms, and ISSO Checklists within Archer GRC. Per CIO-IT Security-01-05, proposed system changes must be evaluated to determine potential security impacts.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.1.7   CA-8 Penetration Testing

Control:
Conducts penetration testing [*during A&A efforts and annually thereafter*] on [*all Internet accessible, FIPS 199 High impact, and High Value Asset (HVA) information systems*].

Control Enhancements:
  (1) Penetration Testing | Independent Penetration Testing Agent or Team - Employ an independent penetration agent or penetration team to perform penetration testing on the information system or system components.
  NOTE: *Independence is waived for all annual testing (i.e., testing can be internally performed).*

GSA Implementation Guidance:
All Internet accessible, FIPS 199 High impact, and HVA information systems are required to complete an independent penetration test and provide a Penetration Test Report documenting the results of the exercise as part of the A&A package. Annual penetration tests can be completed internally and do not require an independent assessor. Penetration testing will be conducted in accordance with CIO-IT Security-11-51, including the use of a sampling of web applications based on FIPS 199 security impact levels and the selection of FISMA systems subject to the GSA Annual Penetration Test.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.1.8   CA-9 Internal System Connections

Control:
The organization:

    a. Authorize internal connections of [*other GSA systems using a secure methodology providing security commensurate with the acceptable level of risk as defined in the system security plan and limits access to the information needed by the connected system*] to the system;

    b. Document, for each internal connection, the interface characteristics, security and privacy requirements, and the nature of the information communicated;

    c. Terminate internal system connections after [*15 minutes of inactivity for non-persistent connections*]; and

    d. Review [*annually (or as the SSPP is reviewed and updated)*] the continued need for each internal connection.

GSA Implementation Guidance:
If GSA systems interconnect, they must connect using a secure methodology that provides security commensurate with the acceptable level of risk as defined in the system security plan and that limits access only to the information needed by the other system.

8.2   Planning (PL)

8.2.1   PL-1 Policy and Procedures

Control:
    a. Develop, document, and disseminate to [*personnel with IT security responsibilities as defined in GSA CIO Order 2100.1*]:

        1. [*Organization-level*] planning policy that:
            (a)   Addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and
            (b)   Is consistent with applicable laws, executive orders, directives, regulations, policies, standards, and guidelines; and

        2. Procedures to facilitate the implementation of the planning policy and the associated planning controls;

    b. Designate an [*CISO*] to manage the development, documentation, and dissemination of the planning policy and procedures;

    c. Review and update the current planning:

        1. Policy [*annually, as part of CIO 2100.1, GSA IT Security Policy*] and following [*changes to Federal or GSA policies, requirements, or guidance*]; and

        2. Procedures [*at least every three (3) years*] and following [*changes to Federal or GSA policies, requirements, or guidance*].

GSA Implementation Guidance:

The GSA security planning policy is defined in the GSA IT Security Policy, CIO 2100.1, which addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance regarding security planning for GSA systems. This policy is disseminated GSA-wide via GSA's InSite centralized agency website.

GSA security planning procedures are documented in this guide. Additional security and assessment guides for specific types of systems have been developed and are referenced in CIO IT Security-06-30. The procedures facilitate the implementation of the physical and environmental protection policy and associated controls. This guide is disseminated GSA-wide via GSA's InSite centralized agency website.

The GSA CISO is responsible for managing the development, documentation, and dissemination of the policies and procedures for GSA IT.

The GSA OCISO is responsible for reviewing and updating CIO 2100.1 annually.

The GSA OCISO is responsible for reviewing and updating CIO-IT Security 06-30 at least every three (3) years and following changes to Federal or GSA policies, requirements, or guidance.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.2.2 PL-2 System Security and Privacy Plans

Control:

    a. Develop security and privacy plans for the system that:

        1. Are consistent with the organization's enterprise architecture;

        2. Explicitly define the constituent system components;

        3. Describe the operational context of the system in terms of mission and business processes;

        4. Identify the individuals that fulfill system roles and responsibilities;

        5. Identify the information types processed, stored, and transmitted by the system;

        6. Provide the security categorization of the system, including supporting rationale;

        7. Describe any specific threats to the system that are of concern to the organization;

        8. Provide the results of a privacy risk assessment for systems processing personally identifiable information;

9. Describe the operational environment for the system and any dependencies on or connections to other systems or system components;
10. Provide an overview of the security and privacy requirements for the system;
11. Identify any relevant control baselines or overlays, if applicable;
12. Describe the controls in place or planned for meeting the security and privacy requirements, including a rationale for any tailoring decisions;
13. Include risk determinations for security and privacy architecture and design decisions;
14. Include security- and privacy-related activities affecting the system that require planning and coordination with [Assignment: organization-defined individuals or groups]; and
15. Are reviewed and approved by the authorizing official or designated representative prior to plan implementation.

b. Distribute copies of the plans and communicate subsequent changes to the plans to [*personnel with IT security responsibilities for the system as defined in GSA CIO Order 2100.1*];
c. Review the plans [*annually*];
d. Update the plans to address changes to the system and environment of operation or problems identified during plan implementation or control assessments; and
e. Protect the plans from unauthorized disclosure and modification

GSA Implementation Guidance:
The focus of this control is to ensure that an SSPP has been developed for the information system that documents the security requirements for the information system, and the implementation status of the security controls that have been assigned to the system as per FIPS 199 impact analysis. All GSA information systems must develop an SSPP when required by GSA's A&A processes described in this guide using GSA SSPP templates based on NIST SP 800-18. Detailed guidance is available in RMF Categorize Step and RMF Implement Step of this guide.

The security requirements per FIPS 199 impact level and the security controls which are planned or in-place to meet these requirements, must be documented within the SSPP and updated as-needed to reflect any change to the information system environment. Updates made to the SSPP must include updates to system applications and hardware, remediation of previously identified weaknesses and any addition of new weaknesses identified through security assessments or continuous monitoring.

Systems must include in their SSPP a section on transitioning to IPv6. Systems following AWS and DevOps/DevSecOps practices must include in their SSPP or a supplemental document security practices used to manage their environment and deployment processes.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.2.3   PL-4 Rules of Behavior

Control:

a. Establish and provide to individuals requiring access to the system, the rules that describe their responsibilities and expected behavior for information and system usage, security, and privacy;

b. Receive a documented acknowledgment from such individuals, indicating that they have read, understand, and agree to abide by the rules of behavior, before authorizing access to information and the system;

c. Review and update the rules of behavior [*at least annually*]; and

d. Require individuals who have acknowledged a previous version of the rules of behavior to read and re-acknowledge [Selection (one or more): [*annually or when the rules are revised or updated*].

Control Enhancements:

(1) Rules of Behavior | Social Media and External Site/Application Usage Restrictions - Include in the rules of behavior, restrictions on:
  (a) Use of social media, social networking sites, and external sites/applications;
  (b) Posting organizational information on public websites; and
  (c) Use of organization-provided identifiers (e.g., email addresses) and authentication secrets (e.g., passwords) for creating accounts on external sites/applications

GSA Implementation Guidance:

GSA has developed the GSA IT Rules of Behavior for General Users as indicated in CIO-IT Security-05-029, "*Security and Privacy Awareness and Role Based Training Program.*" The rules describe a user's responsibilities and expected behavior when using GSA information systems including use of social media and external sites/applications, posting organizational information on public websites, and using organizational identifiers or authentication secrets when creating accounts on external sites/applications. All GSA IT users must sign the GSA IT General Rules of Behavior for General Users within 90 days of their entry on duty (EoD). Based on risk-based decision for operational reasons, GSA does not require the rules be signed before accessing an information system. GSA OCISO reviews and updates the GSA IT Rules of Behavior for General Users annually. All GSA IT users are required to re-sign the GSA IT Rules of Behavior for General Users annually or when the rules are revised or updated as part of GSA's annual IT Security and Privacy Awareness training.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.2.4   PL-8 Information Security Architecture

Control:

e. Develop security and privacy architectures for the system that:

      1. Describe the requirements and approach to be taken for protecting the confidentiality, integrity, and availability of organizational information;
      2. Describe the requirements and approach to be taken for processing personally identifiable information to minimize privacy risk to individuals;
      3. Describe how the architectures are integrated into and support the enterprise architecture; and
      4. Describe any assumptions about, and dependencies on, external systems and services;

   f. Review and update the architectures [*as necessary, and at least annually in conjunction with SSPP reviews/updates*] to reflect changes in the enterprise architecture; and

   g. Reflect planned architecture changes in security and privacy plans, Concept of Operations (CONOPS), criticality analysis, organizational procedures, and procurements and acquisitions.

GSA Implementation Guidance:
GSA's CIO-IT Security-19-95, "Security Engineering Architecture Reviews," requires every system seeking authorization to have their architecture approved by ISE before beginning security assessment activities. It also requires reviews of any changes/updates to the information security architecture at least annually to assess system changes and changes/updates in GSA's enterprise architecture.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.2.5 PL-10 Baseline Selection

Control:
Select a control baseline for the system

GSA Implementation Guidance:
GSA system owners, data owners, ISSOs, and ISSMs are required to follow the processes and procedures described in Section 5.3.1 of this guide for selecting the control baseline for their information and information systems.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.2.6 PL-11 Baseline Tailoring

Control:
Tailor the selected control baseline by applying specified tailoring actions.

GSA Implementation Guidance:
GSA system owners, data owners, ISSOs, and ISSMs are required to follow the processes and procedures described in Section 5.3.2 of this guide for determining the tailored actions of their information and information systems baseline(s).

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.3　Risk Assessment (RA)

8.3.1　RA-1 Policy and Procedures

Control:

a. Develop, document, and disseminate to [*personnel with IT security responsibilities as defined in GSA CIO Order 2100.1*]:
   1. [*Organization-level*] risk assessment policy that:
      (a)　　Addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and
      (b)　　Is consistent with applicable laws, executive orders, directives, regulations, policies, standards, and guidelines; and
   2. Procedures to facilitate the implementation of the planning policy and the associated risk assessment controls;
b. Designate an [*CISO*] to manage the development, documentation, and dissemination of the risk assessment policy and procedures; and
c. Review and update the current risk assessment:
   1. Policy [*annually, as part of CIO 2100.1, GSA IT Security Policy*] and following [*changes to Federal or GSA policies, requirements, or guidance*]; and
   2. Procedures [*at least every three (3) years*] and following [*changes to Federal or GSA policies, requirements, or guidance*].

GSA Implementation Guidance:

GSA's risk assessment policy is defined in the GSA IT Security Policy, CIO 2100.1, which addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance regarding risk assessment for GSA systems. This policy is disseminated GSA-wide via GSA's InSite centralized agency website.

GSA's risk assessment procedures are documented in this guide and other procedural guides referenced in it. The procedures facilitate the implementation of the risk assessment policy and associated controls. This guide is disseminated GSA-wide via GSA's InSite centralized agency website.

The GSA CISO is responsible for managing the development, documentation, and dissemination of the policies and procedures for GSA IT.

The GSA OCISO is responsible for reviewing and updating CIO 2100.1 annually.

The GSA OCISO is responsible for reviewing and updating CIO-IT Security 06-30 at least every three (3) years and following changes to Federal or GSA policies, requirements, or guidance.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.3.2　RA-2 Security Categorization

Control:
   a. Categorize the system and information it processes, stores, and transmits;
   b. Document the security categorization results, including supporting rationale, in the security plan for the system; and
   c. Verify that the authorizing official or authorizing official designated representative reviews and approves the security categorization decision.

GSA Implementation Guidance:
GSA system owners, data owners, ISSOs, and ISSMs are required to follow the processes and procedures described in Section 5.2.2 of this guide for determining the security categorization of their information and information systems.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.3.3　RA-3 Risk Assessment

Control:
   a. Conduct a risk assessment, including:
      1. Identifying threats to and vulnerabilities in the system;
      2. Determining the likelihood and magnitude of harm from unauthorized access, use, disclosure, disruption, modification, or destruction of the system, the information it processes, stores, or transmits, and any related information; and
      3. Determining the likelihood and impact of adverse effects on individuals arising from the processing of personally identifiable information;
   b. Integrate risk assessment results and risk management decisions from the organization and mission or business process perspectives with system-level risk assessments;
   c. Document risk assessment results in [*a security assessment report (SAR) or as specified in CIO-IT Security-06-30 and GSA's other Assessment and Authorization processes identified therein*];
   d. Review risk assessment results [*as specified in CIO-IT Security-06-30 and GSA's other Assessment and Authorization processes identified therein*];
   e. Disseminate risk assessment results to [*personnel with risk assessment/management responsibilities as defined in GSA CIO Order 2100.1*]; and
   f. Update the risk assessment [*as specified in CIO-IT Security-06-30 and GSA's other Assessment and Authorization processes identified therein*] or when there are significant changes to the system, its environment of operation, or other conditions that may impact the security or privacy state of the system.

Control Enhancements:
   (1) Risk Assessment | Supply Chain Risk Assessment –

(a) Assess supply chain risks associated with [*GSA S/SO or Contractor recommended systems, system components, and system services as approved by the CISO and AO*]; and

(b) Update the supply chain risk assessment [*GSA S/SO or Contractor recommended frequency as approved by the CISO and AO*], when there are significant changes to the relevant supply chain, or when changes to the system, environments of operation, or other conditions may necessitate a change in the supply chain.

GSA Implementation Guidance:
The focus of this control is to verify that an assessment of risk is performed and documented for the information system and that the subsequent security assessment report is communicated to GSA senior management, in order to provide key information regarding the system's current security state and resulting risk to GSA operations, assets, and individuals. The results of the risk assessment provide critical information to assist the GSA AO in determining whether or not to authorize/re-authorize the information system.

GSA requires a risk assessment to be conducted as part of a system's initial security authorization process, and then risk is assessed in accordance with the specific GSA A&A process used from Section 4. GSA's process for performing a risk assessment is defined in Section 5.5.4 of this guide and in the GSA A&A processes listed in Section 4. The results of this risk assessment must be documented as defined in the GSA A&A process used.

As per RA-3, Enhancement (1), GSA FIPS 199 Low, Moderate, and High Impact Systems must coordinate with the GSA OCISO to identify systems, components, and services to be assessed for supply chain risk. The must update the supply chain risk assessment at a mutually agreed upon time frame coordinated with the GSA OCISO. Systems must ensure the proscribed companies identified in CIO-IT Security-09-48 are not providing equipment, systems, or services for their systems or they have an exception or waiver per the Federal Acquisition Regulation.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.3.4   RA-5 Vulnerability Monitoring and Scanning

Control:

a. Monitor and scan for vulnerabilities in the system and hosted applications [*weekly authenticated scans for operating systems (OS)-including databases, monthly unauthenticated scans for web application, annual authenticated scans for web applications*] and when new vulnerabilities potentially affecting the system are identified and reported;

b. Employ vulnerability monitoring tools and techniques that facilitate interoperability among tools and automate parts of the vulnerability management process by using standards for:
   1. Enumerating platforms, software flaws, and improper configurations;
   2. Formatting checklists and test procedures; and

       3.   Measuring vulnerability impact;

  c. Analyze vulnerability scan reports and results from vulnerability monitoring;

  d. Remediate legitimate vulnerabilities [

     (1) For Internet-accessible IP addresses

- *Any Critical (Very High) scan vulnerabilities must be remediated within 15 days.*
- *Any High scan vulnerabilities must be remediated within 30 days.*
- *Any Moderate scan vulnerabilities must be remediated within 90 days.*

     (2) For all other assets

       (a) Any Critical (Very High) and High scan vulnerabilities must be remediated within 30 days.

       (b) Any Moderate scan vulnerabilities must be remediated within 90 days]

in accordance with an organizational assessment of risk;

  e. Share information obtained from the vulnerability monitoring process and control assessments with [*Information System Security Officers*] to help eliminate similar vulnerabilities in other systems; and

  f. Employ vulnerability monitoring tools that include the capability to readily update the vulnerabilities to be scanned

Control Enhancements:

  (2) Vulnerability Monitoring and Scanning | Update Vulnerabilities to be Scanned – update the system vulnerabilities to be scanned [*continuously – before each scan].*

  (4) Vulnerability Monitoring and Scanning | Discoverable Information – determine information about the system that is discoverable and take [*GSA S/SO recommended corrective actions as approved by the CISO and AO]*

  (5) Vulnerability Monitoring and Scanning | Privileged Access - implement privileged access authorization to [*all information system components as applicable (e.g., OS, DB, Web App, etc.*] for [*all vulnerability scanning activities*].

  (11) Vulnerability Monitoring and Scanning | Public Disclosure Program – establish a public reporting channel for receiving reports of vulnerabilities in organizational systems and system components.

GSA Implementation Guidance:

CIO-IT Security-17-80 describes the weekly, monthly, and annual requirements for vulnerability scanning of GSA information systems and applications. It also describes an ad hoc process which can be used to scan for new vulnerabilities. CIO-IT Security-17-80 describes the scanning tools and techniques GSA uses to automate, as much as is possible, the scanning of GSA information systems and applications. It includes a description of the use of the Common Vulnerability Scoring System (CVSS) for assigning risks for tools that support CVSS. CIO-IT Security-17-80 assigns ISSOs the responsibility to evaluate and analyze scan reports and results in collaboration with information system personnel. GSA Order CIO 2100.1, this guide, and CIO-IT Security-17-80 all require remediation of:

- Critical/Very High vulnerabilities- for Internet-accessible IP addresses within 15 days, for all other assets within 30 days;

- High vulnerabilities within 30 days;
- Moderate vulnerabilities within 90 days

CIO-IT Security-17-80 describes how the different reports or dashboards are shared with ISSOs, ISSMs, and executives as necessary. Reports such as the Top 10 vulnerability summaries can be used to identify systemic issues across GSA.

As per RA-5, Enhancement (2), the scanning tools used by GSA's ISO Division are scheduled for auto-updates daily and update the tool configuration as necessary before running scans.

As per RA-5, Enhancement (4), GSA's ISO Division shares reports and dashboards with ISSOs who must coordinate with system personnel to take corrective actions to restrict discoverable information about systems as necessary.

As per RA-5, Enhancement (5), GSA FIPS 199 High Impact systems must collaborate with the ISO Division to implement privileged access to system assets in support of the vulnerability scanning capabilities described in CIO-IT Security-17-80.

As per RA-5, Enhancement (11), GSA FIPS 199 Low, Moderate and High Impact systems must support GSA's vulnerability disclosure program.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.3.5   RA-7 Risk Response

Control: Respond to findings from security and privacy assessments, monitoring, and audits in accordance with organizational risk tolerance.

GSA Implementation Guidance:
ISSOs, System Owners, and system, network, and database administrators, will coordinate and perform remediation actions based upon the results of ongoing monitoring activities, assessment of risk, and outstanding items in the system's POA&M as described in Section 5.7.3 of this guide.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

8.3.6   RA-9 Criticality Analysis

Control: Identify critical system components and functions by performing a criticality analysis for [*GSA S/SO or Contractor recommended and CISO and AO approved systems, system components, or system services*] at [*the implementation phase and if there are significant changes modifying criticality during the operations and maintenance phase*].

GSA Implementation Guidance:

GSA system owners, data owners, ISSOs, and ISSMs must identify the criticality of components as part of the Business Impact Assessment included in Contingency Planning activities.

Additional Contractor System Considerations: *Vendor/contractor systems must comply with the controls IAW the guidance and control parameters established above.*

9   Additional NIST Controls Required by GSA

GSA requires certain controls be a part of a systems control set, regardless of a system's specific A&A process, in accordance with the applicability listed in the following table.

Table 8-1: GSA Additional NIST Control Requirements

No.	Control No.	Control Name/Statement	Control Applicability
1	CA-2(1)	**Control Assessments | Independent Assessors** Employ independent assessors or assessment teams to conduct control assessments. **NOTE:** Independence is defined as when assessors do not: (i) have a mutual or conflicting interest with the organizations where the assessments are being conducted; (ii) assess their own work; (iii) act as management or employees of the organizations they are assessing; or (iv) place themselves in positions of advocacy for the organizations acquiring their services	• All FIPS 199 Low external vendor/contractor information systems, and all FIPS 199 Moderate and High information systems
2	CA-8	**Penetration Testing** Conduct penetration testing [Assignment: organization-defined frequency] on [Assignment: organization-defined systems or system components]. The organization conducts penetration testing [*during A&A efforts and annually thereafter*] on [*all Internet accessible, FIPS 199 High impact, and High Value Asset (HVA) information systems*].	• All Internet accessible, FIPS 199 High, and HVA information systems (See Section 8.1.7)
3	CA-8(1)	**Penetration Testing | Independent Penetration Agent or Team.** Employ an independent penetration testing agent or team to perform penetration testing on the system or system components. **NOTE:** Independence is waived for all annual testing (i.e., testing can be internally performed)	• All Internet accessible, FIPS 199 High, and HVA information systems (See Section 8.1.7)
4	CM-2(2)	**Baseline Configuration | Automation Support for Accuracy / Currency** Maintain the currency, completeness, accuracy, and availability of the baseline configuration of the system using [*Assignment: organization-defined automated mechanisms*].	• Standard A&A Moderate and High Systems • Lightweight A&A Systems • MiSaaS A&A Systems • OA Program

No.	Control No.	Control Name/Statement	Control Applicability
5	CM-6(1)	**Configuration Settings | Automated Management, Application, and Verification** Manage, apply, and verify configuration settings for [*all operating systems*] using [*Assignment: organization-defined automated mechanisms*].	• Standard A&A Moderate and High Systems • Lightweight A&A Systems • MiSaaS A&A Systems • OA Program
6	CM-8(2)	**System Component Inventory | Automated Maintenance** Maintain the currency, completeness, accuracy, and availability of the inventory of system components using [*Assignment: organization-defined automated mechanisms*].	• Standard A&A Moderate and High Systems • Lightweight A&A Systems • OA Program
7	CM-8(6)	**System Component Inventory | Assessed Configurations / Approved Deviations** Include assessed component configurations and any approved deviations to current deployed configurations in the system component inventory.	• Standard A&A Moderate and High Systems
8	IA-2(2)	**Identification and Authentication (Organizational Users) | Multi-Factor Authentication to Non-Privileged Accounts** Implement multi-factor authentication for access to non-privileged accounts.	• All Systems

9	PL-8	**Security and Privacy Architectures**
		a. Develop security and privacy architectures for the system that:
		  1. Describe the requirements and approach to be taken for protecting the confidentiality, integrity, and availability of organizational information;
		  2. Describe the requirements and approach to be taken for processing personally identifiable information to minimize privacy risk to individuals;
		  3. Describe how the architectures are integrated into and support the enterprise architecture; and
		b. Review and update the architectures [*as necessary, and at least annually in conjunction with SSPP reviews/updates*] to reflect changes in the enterprise architecture; and
		c. Reflect planned architecture changes in security and privacy plans, Concept of Operations (CONOPS), criticality analysis, organizational procedures, and procurements and acquisitions.
			• All Systems

No.	Control No.	Control Name/Statement	Control Applicability
10	SA-3(2)	**System Development Life Cycle | Use of Live or Operational Data** (a) Approve, document, and control the use of live data in preproduction environments for the system, system component, or system service; and (b) Protect preproduction environments for the system, system component, or system service at the same impact or classification level as any live data in use within the preproduction environments.	• All Systems
11	SA-8	**Security and Privacy Engineering Principles** Apply the following systems security and privacy engineering principles in the specification, design, development, implementation, and modification of the system and system components: [*Assignment: organization-defined systems security and privacy engineering principles*].	• All Systems
12	SA-22	**Unsupported System Components** a. Replaces system components when support for the components is no longer available from the developer, vendor, or manufacturer; or b. Provides the following options for alternative sources for continued support for unsupported components *[Selection (one or more): in-house support; [Assignment: organization-defined support from external providers*]]	• All Systems
13	SC-8(1)	**Transmission Confidentiality and Integrity | Cryptographic Protection** Implement cryptographic mechanisms to [prevent unauthorized disclosure of information and detect changes to information] during transmission.	• All Systems
14	SC-28(1)	**Protection of Information at Rest | Cryptographic Protection** Implement cryptographic mechanisms to prevent unauthorized disclosure and modification of the following information at rest on [*any system component, including databases (i.e., table, column, or field level) and applications*]: [*(1) Personally identifiable information; (2) Payment Card Industry data; (3) Authenticators, including but not limited to passwords, keys, and tokens; (4) business sensitive data as determined by the data owner and approved by the AO*]	• All Systems

No.	Control No.	Control Name/Statement	Control Applicability

15	SI-2(3)	**Flaw Remediation	Time to Remediate Flaws / Benchmarks for Corrective Actions**
			a. Measure the time between flaw identification and flaw remediation; and
			b. Establish the following benchmarks for taking corrective actions [
			(1) For Internet-accessible IP addresses
			    (a) Any Critical (Very High) scan vulnerabilities must be remediated within 15 days.
			    (b) Any High scan vulnerabilities must be remediated within 30 days.
			    (c) Any Moderate scan vulnerabilities must be remediated within 90 days.
			(2) For all other assets
			    (a) Any Critical (Very High) and High scan vulnerabilities must be remediated within 30 days.
			    (b) Any Moderate scan vulnerabilities must be remediated within 90 days.]
			for taking corrective actions.
				• Standard A&A Moderate and High Systems
				• OA Program

10 Summary

Managing enterprise-level risk through a system life cycle perspective is a departure from the traditional view of security authorization as a static, procedural process. GSA has integrated EO 13800 and the NIST CSF throughout this guide by showing how they align with GSA's agency-wide use of the NIST RMF security authorization processes. The policies and procedures outlined in this guide provide an effective approach to system security authorization that is more dynamic and more capable of managing information system-related security risks across a diverse enterprise.

All GSA information systems must undergo a security control assessment and be authorized to operate according to their specific A&A process. GSA's standard A&A process requires A&A at least every three (3) years or whenever there is a significant change to the system's security posture in accordance with NIST SP 800-37.

GSA contractors and Federal employees should use this guide and the noted references prior to selecting and performing a security authorization process. Where there is a conflict between NIST guidance and GSA guidance, contact OCISO at ispcompliance@gsa.gov.

Note: In Appendix F, Table F-1, GSA has identified a list of Showstopper capabilities. Showstopper capabilities and associated NIST controls, if not fully implemented, may keep a system from receiving a full ATO.

Appendix A: CSF Function, Category, and Subcategory Definitions

The five CSF core function definitions are:

- **Identify (ID):** Develop an organizational understanding to manage cybersecurity risk to systems, people, assets, data, and capabilities. The activities in the Identify Function are foundational for effective use of the Framework. Understanding the business context, the resources that support critical functions and the related cybersecurity risks enables an organization to focus and prioritize its efforts, consistent with its risk management strategy and business needs. Examples of outcome Categories within this Function include: Asset Management; Business Environment; Governance; Risk Assessment; and Risk Management Strategy.
- **Protect: (PR):** Develop and implement appropriate safeguards to ensure delivery of critical services. The Protect Function supports the ability to limit or contain the impact of a potential cybersecurity event. Examples of outcome Categories within this Function include: Identity Management and Access Control; Awareness and Training; Data Security; Information Protection Processes and Procedures; Maintenance; and Protective Technology.
- **Detect (DE):** Develop and implement appropriate activities to identify the occurrence of a cybersecurity event. The Detect Function enables timely discovery of cybersecurity events. Examples of outcome Categories within this Function include: Anomalies and Events; Security Continuous Monitoring; and Detection Processes.
- **Respond (RS):** Develop and implement appropriate activities to take action regarding a detected cybersecurity incident. The Respond Function supports the ability to contain the impact of a potential cybersecurity incident. Examples of outcome Categories within this Function include: Response Planning; Communications; Analysis; Mitigation; and Improvements.
- **Recover (RC):** Develop and implement appropriate activities to maintain plans for resilience and to restore any capabilities or services that were impaired due to a cybersecurity incident. The Recover Function supports timely recovery to normal operations to reduce the impact from a cybersecurity incident. Examples of outcome Categories within this Function include: Recovery Planning; Improvements; and Communications.

Table A-1 lists how NIST SP 800-37, Revision 2 maps the CSF functions listed above to the RMF steps. CSF category/subcategory identifiers are included in italics and parentheses after RMF tasks based on the task outcome tables in NIST SP 800-37. NIST identified some mappings to be to a Profile or to Implementation Tiers which are included in the table.

Table A-1: NIST CSF Functions Mapped to NIST SP 800-37 RMF Steps

CSF Function	Mapped RMF Steps

Identify	**Prepare Step:**
	    Task P-1: Risk Management Roles (*ID.AM, ID.GV-2*)
	    Task P-2: Risk Management Strategy (*ID.RM, ID.SC*)
	    Task P-3: Risk Assessment – Organization (*ID.RM, ID.SC*)
	    Task P-6: Impact-Level Prioritization (Optional) (*ID.AM-5*)
	    Task P-7: Continuous Monitoring Strategy – Organization (*DE.CM, ID.SC-4*)
	    Task P-8: Mission or Business Focus (*Profile; Implementation Tiers, ID.BE*)
	    Task P-9: System Stakeholders (*ID.AM; ID.BE*)
	    Task P-10: Asset Identification (*ID.AM*)
	    Task P-11: Authorization Boundary (*N/A*)
	    Task P-12: Information Types (*ID.AM-5*)
	    Task P-13: Information Life Cycle (*ID.AM-3, ID.AM-4*)
	    Task P-14: Risk Assessment – System (*ID.RA, ID.SC-2*)
	    Task P-15 Requirements Definition (*ID.GV, PR.IP*)
	    Task P-16: Enterprise Architecture (*N/A*)
	    Task P-17: Requirements Allocation (*ID.GV*)
	    Task P-18: System Registration (*ID.GV*)
	Categorize Step:
	    Task C-1: System Description (*Profile*)
	    Task C-2: Security Categorization (*ID.AM-1, ID.AM-2, ID.AM-3, ID.AM-4, ID.AM-5, Profile*)
	    Task C-3: Security Categorization Review and Approval (*N/A*)
	Select Step:
	    Task S-1: Control Selection (*Profile*)
	    Task S-2: Control Tailoring (*Profile*)
	    Task S-3: Control Allocation (*Profile, PR.IP*)
	    Task S-4: Documentation of Planned Control Implementations (*Profile*)
	    Task S-5: Continuous Monitoring Strategy – System (*ID.GV, DE.CM*)
	Assess Step:
	    Task A-6: Plan of Action and Milestones (*ID.RA-6*)
	Authorize Step:
	    Task R-3: Risk Response (*ID.RA-6*)
	    Task R-5: Authorization Reporting (*N/A*)
	Monitor Step:
	    Task M-1: System and Environment Changes (*DE.CM, ID.GV*)
	    Task M-2: Ongoing Assessments (*ID.SC-4*)
	    Task M-5: Security and Privacy Reporting (*N/A*)

Protect	**Prepare Step:**
	    Task P-15 Requirements Definition (*ID.GV, PR.IP*)
	Select Step:
	    Task S-1: Control Selection (*Profile*)
	    Task S-2: Control Tailoring (*Profile*)
	    Task S-3: Control Allocation (*Profile, PR.IP*)
	    Task S-4: Documentation of Planned Control Implementations (*Profile*)
	Implement Step:
	    Task I-1: Control Implementation (*PR.IP-1, PR.IP-2*)
	    Task I-2: Update Control Implementation Information (*PR.IP-1, Profile*)
	Authorize Step:
	    Task R-5: Authorization Reporting (*N/A*)
	Monitor Step:

CSF Function	Mapped RMF Steps
	Task M-5: Security and Privacy Reporting (*N/A*)

Detect	**Prepare Step:**
	    Task P-7 Continuous Monitoring Strategy – Organization
	    Task P-15 Requirements Definition (*ID.GV, PR.IP*)
	Select Step:
	    Task S-1: Control Selection (*Profile*)
	    Task S-2: Control Tailoring (*Profile*)
	    Task S-4: Documentation of Planned Control Implementations (*Profile*)
	    Task S-5: Continuous Monitoring Strategy – System (*ID.GV, DE.CM*)
	Authorize Step:
	    Task R-5: Authorization Reporting (*N/A*)
	Monitor Step:
	    Task M-1: System and Environment Changes (*DE.CM, ID.GV*)
	    Task M-5: Security and Privacy Reporting (*N/A*)

Respond	**Prepare Step:**
	    Task P-15 Requirements Definition (*ID.GV, PR.IP*)
	Select Step:
	    Task S-1: Control Selection (*Profile*)
	    Task S-2: Control Tailoring (*Profile*)
	    Task S-4: Documentation of Planned Control Implementations (*Profile*)
	Authorize Step:
	    Task R-5: Authorization Reporting (*N/A*)
	Monitor Step:
	    Task M-3: Ongoing Risk Response (*RS.AN*)
	    Task M-4: Authorization Package Updates (*RS.IM*)
	    Task M-5: Security and Privacy Reporting (*N/A*)

Recover	**Prepare Step:**
	    Task P-15 Requirements Definition (*ID.GV, PR.IP*)
	Select Step:
	    Task S-1: Control Selection
	    Task S-2: Control Tailoring
	    Task S-4: Documentation of Planned Control Implementations
	Authorize Step:
	    Task R-5: Authorization Reporting
	Monitor Step:
	    Task M-5: Security and Privacy Reporting (*N/A*)

N/A	**Prepare Step:**
	    Task P-4: Organizationally – Tailored Control Baselines and Cybersecurity Framework Profiles (Optional) (*Profile*)
	    Task P-5: Common Control Identification (*N/A*)
	Select Step:
	    Task S-6: Plan Review and Approval (*N/A*)
	Assess Step:
	    Task A-1: Assessor Selection (*N/A*)
	    Task A-2: Assessment Plan (*N/A*)
	    Task A-3: Control Assessments (*N/A*)
	    Task A-4: Assessment Reports (*N/A*)
	    Task A-5: Remediation Actions (*Profile*)
	Authorize Step:
	    Task R-1: Authorization Package
	    Task R-2: Risk Analysis and Determination

CSF Function	Mapped RMF Steps
	Task R-4: Authorization Decision
	Monitor Step:
	Task M-6: Ongoing Authorization (*N/A*)
	Task M-7: System Disposal (*N/A*)

Table A-2, CSF Category/Subcategory Definitions, provides the definitions for CSF Categories and Subcategory Unique Identifiers. GSA is aligned with the CSF via the implementation of the NIST SP 800-53 controls which address the subcategory requirements. NIST CSF Version 1.1 provides an informative (i.e., not establishing a normative standard) listing of NIST SP 800-53 controls to the subcategories. Rows highlighted in yellow in the Table A-2 depict CSF Categories/Subcategories that NIST indicates in the CSF are associated with the CA, PL, and RA controls in Section 8.

Table A-2: CSF Category/Subcategory Definitions

Category/Subcategory Unique Identifiers	Definition
Asset Management (ID.AM)	The data, personnel, devices, systems, and facilities that enable the organization to achieve business purposes are identified and managed consistent with their relative importance to organizational objectives and the organization's risk strategy.
ID.AM-1	Physical devices and systems within the organization are inventoried
ID.AM-2	Software platforms and applications within the organization are inventoried
ID.AM-3	Organizational communication and data flows are mapped
ID.AM-4	External information systems are catalogued
ID.AM-5	Resources (e.g., hardware, devices, data, time, personnel, and software) are prioritized based on their classification, criticality, and business value
ID.AM-6	Cybersecurity roles and responsibilities for the entire workforce and third-party stakeholders (e.g., suppliers, customers, partners) are established
Business Environment (ID.BE)	The organization's mission, objectives, stakeholders, and activities are understood and prioritized; this information is used to inform cybersecurity roles, responsibilities, and risk management decisions.
ID.BE-1	The organization's role in the supply chain is identified and communicated
ID.BE-2	The organization's place in critical infrastructure and its industry sector is identified and communicated
ID.BE-3	Priorities for organizational mission, objectives, and activities are established and communicated
ID.BE-4:	Dependencies and critical functions for delivery of critical services are established
ID.BE-5	Resilience requirements to support delivery of critical services are established for all operating states (e.g., under duress/attack, during recovery, normal operations)
Governance (ID.GV)	The policies, procedures, and processes to manage and monitor the organization's regulatory, legal, risk, environmental, and operational requirements are understood and inform the management of cybersecurity risk.
ID.GV-1	Organizational cybersecurity policy is established and communicated
ID.GV-2	Cybersecurity roles and responsibilities are coordinated and aligned with internal roles and external partners
ID.GV-3	Legal and regulatory requirements regarding cybersecurity, including privacy and civil liberties obligations, are understood and managed

Category/Subcategory Unique Identifiers	Definition
ID.GV-4	Governance and risk management processes address cybersecurity risks
Risk Assessment (ID.RA)	The organization understands the cybersecurity risk to organizational operations (including mission, functions, image, or reputation), organizational assets, and individuals.
ID.RA-1	Asset vulnerabilities are identified and documented
ID.RA-2	Cyber threat intelligence is received from information sharing forums and sources
ID.RA-3	Threats, both internal and external, are identified and documented
ID.RA-4	Potential business impacts and likelihoods are identified
ID.RA-5	Threats, vulnerabilities, likelihoods, and impacts are used to determine risk
ID.RA-6	Risk responses are identified and prioritized
Risk Management Strategy (ID.RM)	The organization's priorities, constraints, risk tolerances, and assumptions are established and used to support operational risk decisions.
ID.RM-1	Risk management processes are established, managed, and agreed to by organizational stakeholders
ID.RM-2	Organizational risk tolerance is determined and clearly expressed
ID.RM-3	The organization's determination of risk tolerance is informed by its role in critical infrastructure and sector specific risk analysis
Supply Chain Risk Management (ID.SC)	The organization's priorities, constraints, risk tolerances, and assumptions are established and used to support risk decisions associated with managing supply chain risk. The organization has established and implemented the processes to identify, assess and manage supply chain risks.
ID.SC-1	Cyber supply chain risk management processes are identified, established, assessed, managed, and agreed to by organizational stakeholders
ID.SC-2	Suppliers and third party partners of information systems, components, and services are identified, prioritized, and assessed using a cyber supply chain risk assessment process
ID.SC-3	Contracts with suppliers and third-party partners are used to implement appropriate measures designed to meet the objectives of an organization's cybersecurity program and Cyber Supply Chain Risk Management Plan
ID.SC-4	Suppliers and third-party partners are routinely assessed using audits, test results, or other forms of evaluations to confirm they are meeting their contractual obligations
ID.SC-5	Response and recovery planning and testing are conducted with suppliers and third-party providers
Identity Management, Authentication and Access Control (PR.AC)	Access to physical and logical assets and associated facilities is limited to authorized users, processes, and devices, and is managed consistent with the assessed risk of unauthorized access to authorized activities and transactions.
PR.AC-1	Identities and credentials are issued, managed, verified, revoked, and audited for authorized devices, users and processes
PR.AC-2	Physical access to assets is managed and protected
PR.AC-3	Remote access is managed
PR.AC-4	Access permissions and authorizations are managed, incorporating the principles of least privilege and separation of duties
PR.AC-5	Network integrity is protected (e.g., network segregation, network segmentation)
PR.AC-6	Identities are proofed and bound to credentials and asserted in interactions
PR.AC-7	Users, devices, and other assets are authenticated (e.g., single-factor, multi-factor) commensurate with the risk of the transaction (e.g., individuals' security and privacy risks and other organizational risks)

Category/Subcategory Unique Identifiers	Definition
Awareness and Training (PR.AT)	The organization's personnel and partners are provided cybersecurity awareness education and are adequately trained to perform their information security-related duties and responsibilities consistent with related policies, procedures, and agreements.
PR.AT-1	All users are informed and trained
PR.AT-2	Privileged users understand roles and responsibilities
PR.AT-3	Third-party stakeholders (e.g., suppliers, customers, partners) understand roles and responsibilities
PR.AT-4	Senior executives understand roles and responsibilities
PR.AT-5	Physical and information security personnel understand roles and responsibilities
Data Security (PR.DS)	Information and records (data) are managed consistent with the organization's risk strategy to protect the confidentiality, integrity, and availability of information.
PR.DS-1	Data-at-rest is protected
PR.DS-2	Data-in-transit is protected
PR.DS-3	Assets are formally managed throughout removal, transfers, and disposition
PR.DS-4	Adequate capacity to ensure availability is maintained
PR.DS-5	Protections against data leaks are implemented
PR.DS-6	Integrity checking mechanisms are used to verify software, firmware, and information integrity
PR.DS-7	The development and testing environment(s) are separate from the production environment
PR.DS-8	Integrity checking mechanisms are used to verify hardware integrity
Information Protection Processes and Procedures (PR.IP)	Security policies (that address purpose, scope, roles, responsibilities, management commitment, and coordination among organizational entities), processes, and procedures are maintained and used to manage protection of information systems and assets.
PR.IP-1	A baseline configuration of information technology/industrial control systems is created and maintained incorporating security principles (e.g., concept of least functionality)
PR.IP-2	A System Development Life Cycle to manage systems is implemented
PR.IP-3	Configuration change control processes are in place
PR.IP-4	Backups of information are conducted, maintained, and tested
PR.IP-5	Policy and regulations regarding the physical operating environment for organizational assets are met
PR.IP-6	Data is destroyed according to policy
PR.IP-7	Protection processes are improved
PR.IP-8	Effectiveness of protection technologies is shared
PR.IP-9	Response plans (Incident Response and Business Continuity) and recovery plans (Incident Recovery and Disaster Recovery) are in place and managed
PR.IP-10	Response and recovery plans are tested
PR.IP-11	Cybersecurity is included in human resources practices (e.g., deprovisioning, personnel screening)
PR.IP-12	A vulnerability management plan is developed and implemented
Maintenance (PR.MA)	Maintenance and repairs of industrial control and information system components are performed consistent with policies and procedures.
PR.MA-1	Maintenance and repair of organizational assets are performed and logged, with approved and controlled tools

Category/Subcategory Unique Identifiers	Definition
PR.MA-2	Remote maintenance of organizational assets is approved, logged, and performed in a manner that prevents unauthorized access
Protective Technology (PR.PT)	Technical security solutions are managed to ensure the security and resilience of systems and assets, consistent with related policies, procedures, and agreements.
PR.PT-1	Audit/log records are determined, documented, implemented, and reviewed in accordance with policy
PR.PT-2	Removable media is protected and its use restricted according to policy
PR.PT-3	The principle of least functionality is incorporated by configuring systems to provide only essential capabilities
PR.PT-4	Communications and control networks are protected
PR.PT-5	Mechanisms (e.g., failsafe, load balancing, hot swap) are implemented to achieve resilience requirements in normal and adverse situations
Anomalies and Events (DE.AE)	Anomalous activity is detected and the potential impact of events is understood.
DE.AE-1	A baseline of network operations and expected data flows for users and systems is established and managed
DE.AE-2	Detected events are analyzed to understand attack targets and methods
DE.AE-3	Event data are collected and correlated from multiple sources and sensors
DE.AE-4	Impact of events is determined
DE.AE-5	Incident alert thresholds are established
Security Continuous Monitoring (DE.CM)	The information system and assets are monitored at discrete intervals to identify cybersecurity events and verify the effectiveness of protective measures.
DE.CM-1	The network is monitored to detect potential cybersecurity events
DE.CM-2	The physical environment is monitored to detect potential cybersecurity events
DE.CM-3	Personnel activity is monitored to detect potential cybersecurity events
DE.CM-4	Malicious code is detected
DE.CM-5	Unauthorized mobile code is detected
DE.CM-6	External service provider activity is monitored to detect potential cybersecurity events
DE.CM-7	Monitoring for unauthorized personnel, connections, devices, and software is performed
DE.CM-8	Vulnerability scans are performed
Detection Processes (DE.DP)	Detection processes and procedures are maintained and tested to ensure awareness of anomalous events.
DE.DP-1	Roles and responsibilities for detection are well defined to ensure accountability
DE.DP-2	Detection activities comply with all applicable requirements
DE.DP-3	Detection processes are tested
DE.DP-4	Event detection information is communicated
DE.DP-5	Detection processes are continuously improved
Response Planning (RS.RP)	Response processes and procedures are executed and maintained, to ensure response to detected cybersecurity events.
RS.RP-1:	Response plan is executed during or after an incident
Communications (RS.CO)	Response activities are coordinated with internal and external stakeholders (e.g., external support from law enforcement agencies).
RS.CO-1	Personnel know their roles and order of operations when a response is needed
RS.CO-2	Incidents are reported consistent with established criteria
RS.CO-3	Information is shared consistent with response plans
RS.CO-4	Coordination with stakeholders occurs consistent with response plans

Category/Subcategory Unique Identifiers	Definition
RS.CO-5	Voluntary information sharing occurs with external stakeholders to achieve broader cybersecurity situational awareness
Analysis (RS.AN)	Analysis is conducted to ensure effective response and support recovery activities.
RS.AN-1	Notifications from detection systems are investigated
RS.AN-2	The impact of the incident is understood
RS.AN-3	Forensics are performed
RS.AN-4	Incidents are categorized consistent with response plans
RS.AN-5	Processes are established to receive, analyze and respond to vulnerabilities disclosed to the organization from internal and external sources (e.g., internal testing, security bulletins, or security researchers)
Mitigation (RS.MI)	Activities are performed to prevent expansion of an event, mitigate its effects, and resolve the incident.
RS.MI-1	Incidents are contained
RS.MI-2	Incidents are mitigated
RS.MI-3	Newly identified vulnerabilities are mitigated or documented as accepted risks
Improvements (RS.IM)	Organizational response activities are improved by incorporating lessons learned from current and previous detection/response activities.
RS.IM-1	Response plans incorporate lessons learned
RS.IM-2	Response strategies are updated
Recovery Planning (RC.RP)	Recovery processes and procedures are executed and maintained to ensure restoration of systems or assets affected by cybersecurity incidents.
RC.RP-1	Recovery plan is executed during or after a cybersecurity incident
Improvements (RC.IM)	Recovery planning and processes are improved by incorporating lessons learned into future activities.
RC.IM-1	Recovery plans incorporate lessons learned
RC.IM-2	Recovery strategies are updated
Communications (RC.CO)	Restoration activities are coordinated with internal and external parties (e.g., coordinating centers, Internet Service Providers, owners of attacking systems, victims, other CSIRTs, and vendors).
RC.CO-1	Public relations are managed
RC.CO-2	Reputation after an event is repaired
RC.CO-3	Recovery activities are communicated to internal and external stakeholders as well as executive and management teams

Appendix B: Consolidated List of Guidance, Policies, Procedures, Templates

Federal Regulations/Guidance:

- [DHS Cybersecurity Directives](#)
- [EO 13800](#), *"Presidential Executive Order on Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure"*
- [FIPS 140-2](#), *"Security Requirements for Cryptographic Modules"*
- [FIPS 140-3](#), *"Security Requirements for Cryptographic Modules"*
- [FIPS 199](#), *"Standards for Security Categorization of Federal Information and Information Systems"*
- [FIPS 200](#), *"Minimum Security Requirements for Federal Information and Information Systems"*
- [NIST CSF](#), *"Framework for Improving Critical Infrastructure Cybersecurity"*
- [NIST SP 800-18, Revision 1](#), *"Guide for Developing Security Plans for Federal Information Systems"*
- [NIST SP 800-30 Revision 1](#), *"Guide for Conducting Risk Assessments"*
- [NIST SP 800-37, Revision 2](#), *"Risk Management Framework for Information Systems and Organizations: A System Life Cycle Approach for Security and Privacy"*
- [NIST SP 800-47](#), *"Security Guide for Interconnecting Information Technology Systems"*
- [NIST SP 800-53, Revision 5](#), *"Security and Privacy Controls for Information Systems and Organizations"*
- [NIST SP 800-53B](#), *"Control Baselines for Information Systems and Organizations"*
- [NIST SP 800-60, Volume I, Revision 1](#), *"Volume I: Guide for Mapping Types of Information and Information Systems to Security Categories"*
- [NIST SP 800-60, Volume II, Revision 1](#), *"Volume II: Appendices to Guide for Mapping Types of Information and Information Systems to Security Categories"*
- [NIST SP 800-171, Revision 2](#), *"Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations"*
- [Public Law 113-283](#), *"Federal Information Security Modernization Act of 2014"*

GSA Guidance:

- [GSA Order CIO 2100.1](#), *"GSA Information Technology (IT) Security Policy"*
- [GSA Order CIO 2140.4](#), *"Information Technology (IT) Solutions Life Cycle (SLC) Policy"*

The GSA CIO-IT Security Procedural Guides listed below are available on [the IT Security Procedural Guides](#) page.

- GSA CIO-IT Security-01-05, *"Configuration Management"*
- GSA CIO-IT Security-06-30, *"Managing Enterprise Risk"*
- GSA CIO-IT Security-06-32, *"Media Protection"*
- GSA CIO-IT Security-07-35, *"Web Application Security"*
- GSA CIO-IT Security-08-39, *"Management Implementation Plan"*
- GSA CIO-IT Security-09-44, *"Plan of Action and Milestones"*

- GSA CIO-IT Security-09-48, "*Security Language for IT Acquisition Efforts*"
- GSA CIO-IT Security-11-51, "*Conducting Penetration Test Exercises*"
- GSA CIO-IT Security-11-62, "*Salesforce Platform Security Implementation*"
- GSA CIO-IT Security-12-66, "*Information Security Continuous Monitoring Strategy (ISCM) & Ongoing Authorization (OA) Program*"
- GSA CIO-IT Security-14-68, "*Lightweight Security Authorization Process*"
- GSA CIO-IT Security-16-75, "*Low Impact Software as a Service (SaaS) Solutions Authorization Process*"
- GSA CIO-IT Security-18-88, "*Moderate Impact Software as a Service (MiSaaS) Security Authorization Process*"
- GSA CIO-IT Security-18-90, "*Information Security Plan*"
- GSA CIO-IT Security-18-91, "*Risk Management Strategy*"
- GSA CIO-IT Security-19-95, "*Security Engineering Architecture Reviews*"
- GSA CIO-IT Security-19-101, "*External Information System Monitoring*"
- GSA CIO-IT Security-21-112, "*Protecting Controlled Unclassified Information (CUI) in Nonfederal Systems and Organizations Process*"
- GSA CIO-IT Security-21-114, "*Clean Authorizations to Operate (ATOs) at GSA*"—*under development*

The GSA CIO-IT Security Forms (document templates) listed below are available on the IT Security Forms page.

- FIPS 199 Security Categorization Template
- Digital Identity Acceptance Statement
- GSA Control Tailoring Workbook
- Low, Moderate, and Control Summary Tables
- Low, Moderate, and High System Security Plan Templates
- Low, Moderate, and High NIST 800-53 Rev 4 Test Cases
- Security Assessment Plan Template
- Security Assessment Report Template
- ATO Letter Template
- Certification Memorandum Template
- Low, Moderate, and High Contingency Plan Templates
- Contingency Plan Test Report
- Interconnection Security Agreement Template
- MiSaaS Test Workbook
- MiSaaS SSPP Template
- Penetration Test Exercise Templates:
  - Kickoff Meeting Presentation Template
  - Penetration Test Rules of Engagement Template
  - Authorization Memorandum Template
  - Test Findings Template
  - Penetration Test Report Template

- POA&M Shared Drive User Access Request (if access to a POA&M Shared Drive is not already provided)
- ISCM Plan Template
- ISCM Ongoing Authorization Letter Template
- Salesforce Platform Documentation
- Transfer and Disposal Notification Templates

Privacy Threshold Analysis/Privacy Impact Assessment forms, templates and information are available on GSA's IT Privacy page.

Appendix C: A&A Process Package Document Lists/Links

This Appendix contains a listing of the A&A Package documentation requirements for each of the A&A processes described in this guide, document templates are available on the IT Security Forms page, procedural guides are available on the IT Security Procedural Guides page. Search for the title of the template/form/document listed to obtain its current version. Additional documents may be required of contractor systems as identified in CIO-IT Security-19-101.

Standard A&A Process
Documents
System Security and Privacy Plan (Low, Moderate, High) 　　　Appendix A - Acronyms, Terms, and Definitions 　　　Appendix B - References 　　　Appendix C - Hosted Subsystems (if applicable) 　　　Other Appendices, as necessary 　　　Attachment 1: Privacy Threshold Analysis / Privacy Impact Assessment 　　　Attachment 2: FIPS 199 Security Categorization 　　　Attachment 3: Digital Identity Acceptance Statement 　　　Attachment 4: Interconnection Security Agreement 　　　Attachment 5: Control Tailoring Workbook (CTW) 　　　Attachment 6: Control Implementation Summary Table (Low, Moderate, High) 　　　Attachment 7: Contingency Plan (Low, Moderate, High) 　　　Attachment 8: Contingency Plan Test Report 　　　Attachment 9: Incident Response Plan 　　　Attachment 10: Incident Response Plan Test Report 　　　Attachment 11: Configuration Management Plan 　　　Attachment 12: Continuous Monitoring Plan (if applicable) 　　　Attachment 13: Code Review Report (if applicable) 　　　Other Attachments, as necessary
Security Assessment Report (Results from the Security Assessment Plan) 　　　Appendix A - Acronyms, Terms, and Definitions 　　　Appendix B - NIST 800-53 Test Cases 　　　Appendix C - Operating System Scanning Results 　　　Appendix D - Database Application Scanning Results 　　　Appendix E - Web Application Scanning Results 　　　Other Appendices, as necessary 　　　Attachment 1: Penetration Test Report 　　　Other Attachments, as necessary
Plan of Action and Milestones (POA&M)
Certification Memorandum
ATO Letter

Lightweight Security Authorization Process
Documents

System Security and Privacy Plan (with appendices/attachments)
    Appendix A - References
    Attachment 1: Privacy Threshold Analysis/Privacy Impact Assessment
    Attachment 2: FIPS 199 Security Categorization
    Attachment 3: Digital Identity Acceptance Statement
    Attachment 4: Code Review Report
    Attachment 5: Penetration Test Results (if applicable)
    Attachment 6: Vulnerability Scan Results
Security Assessment Report (with appendices/attachments)
    Appendix A - Acronyms
    Attachments: Additional Supporting Documents (as necessary, see note below)
Note: Systems receiving a 1-year LATO or 3-year full ATO would have a SAR with Attachments 4-5 of the SSPP typically included in the SAR instead of the SSPP.

POA&M
CRM - Please contact your Information System Security Manager (ISSM) to receive the vendor's current CRM for your system.
Certification Memorandum
ATO Letter

Security Reviews for Low Impact Software as a Service Solutions Process
Documents
LiSaaS Solution Review Checklist   Checklist Supporting Artifacts
LiSaaS Solution Profile (only if Very Low/Negligible Risk)
Attestation Letter (if applicable)
ATO Letter

GSA Agency FedRAMP Process
Documents
Note: The FedRAMP A&A documentation templates are available on the FedRAMP website under Documents and Templates. Please visit that website to get the current templates.
System Security Plan
Security Assessment Plan
NIST 800-53 Revision 4 Test Cases
Security Assessment Report
(Vendors) Users Guide)
Control Implementation Summary
POA&M
FIPS 199 Categorization
e-Authentication Level
Rules of Behavior
(Vendors) Configuration Management Plan

GSA Agency FedRAMP Process
(Vendors) Information System Security Policies
IT Contingency Plan
(Vendors) Incident Response Plan
Privacy Threshold Analysis and PIA

Moderate Impact Software as a Service (MiSaaS) Security Authorization Process
Documents
System Security and Privacy Plan 　　MiSaaS SSPP Template
Security Assessment Report 　　Security Assessment Report (including, as applicable) 　　　• MiSaaS Test Workbook 　　　• Vulnerability Scan Data 　　　• Penetration Test Report
POA&M
CRM - Please contact your Information System Security Manager (ISSM) to receive the vendor's current CRM for your system.
Certification Memorandum
ATO Letter

GSA Subsystem A&A Process
Documents
FIPS 199 Low Subsystem
See Lightweight Security Authorization Process Documentation)
FIPS 199 Moderate Subsystem
System Security and Privacy Plan (Low, Moderate, High) (only hybrid and system specific controls)
NIST 800-53 Test Cases (only hybrid and system specific controls)
Security Assessment Report (only hybrid and system specific controls)

GSA Ongoing Authorization Program
Documents
OATO Package 　　• OA Checklist (with supporting artifacts) 　　• Onboarding Assessment Report
OATO Letter

GSA Leveraged FedRAMP XaaS Solution Process
Documents

CRM System Security Plan, including:
    Attachment 1: Privacy Threshold Analysis/Privacy Impact Assessment (if applicable)
    Attachment 2: FIPS 199 Security Categorization
    Attachment 3: Digital Identity Acceptance Statement
    Other Attachments, as necessary

CRM   Evidentiary supporting artifacts, as necessary

Assessment Artifacts
     FIPS 199 Low: Self-attestation statement
    Assessment test cases, automated tool results, etc.

Certification Memorandum
ATO Letter

Appendix D: GSA Defined Cloud Controls

GSA's Control Tailoring Workbook contains a Sheet (Tab) with GSA's assignment parameters for GSA Cloud Control Settings for FIPS 199 Low and Moderate baselines. These parameter settings must be used by CSPs working with GSA pursuing an authorization under the FedRAMP program. CSPs must also address the other controls in FedRAMP's baselines using FedRAMP's assignment parameters.

Appendix E: Scanning Frequency By A&A Process

Scanning/testing frequency by component type and A&A process are listed in the [06-30 Scanning Parameter Spreadsheet](#).

Appendix F: Showstopper Capabilities and Associated Controls

Table F-1 lists the Showstopper Capabilities and associated NIST SP 800-53 controls that GSA has identified that, if not fully compliant, will keep a system from receiving a full ATO.

Table F-1: GSA Showstopper Capabilities/Controls

#	Showstopper Description	Control Reference
1	**Multi-Factor Authentication (MFA) for Privileged & User-level access:** All systems shall utilize a GSA-approved multi-factor authentication mechanism for both privileged and non-privileged user authentication. Further, systems leveraging certificate-based authentication shall not be downgraded to only username and password authentication. Per NIST 800-63B, "*Digital Identity Guidelines, Authentication and Lifecycle Management,*" 2FA methods involving the sending of PINS/passwords via email is prohibited and on public networks via SMS is restricted. Sending PINS/passwords to registered telephone numbers on GFE is allowed based on a risk analysis. 2FA methods shall favor approaches that do not expose PINS/passwords to intercept risk including but not limited to HOTP, TOTP, SAML/OIDC, PIV, FIDO/WebAuthn. If an assessment identifies MFA has not been implemented, per policy requirements, then the system will not be approved for a 3-year ATO or OA, until MFA is implemented.	IA-2 (1) Identification and Authentication (Organizational Users) | Multifactor Authentication to Privileged Accounts IA-2 (2) Identification and Authentication (Organizational Users) | Multifactor Authentication to Non-Privileged Accounts
2	**Critical and High vulnerabilities:** GSA requires ongoing remediation actions including patching, updating and upgrading out of date components, addressing known vulnerabilities, completing POA&Ms, maintaining secure configurations of components. If an assessment identifies ongoing remediation actions are not being addressed, then the system will not be approved for a 3-year ATO or OA, until the associated risks are mitigated.	SI-2 Flaw Remediation
3	**Remote Code Execution (RCE) Vulnerabilities:** RCE vulnerabilities can be exploited if user input is injected into a File or a String and executed (evaluated) by the programming language's parser. RCE vulnerabilities must be remediated, regardless of the RCE system impact level identified. If an information system is identified with an RCE vulnerability during an assessment, then the system will not be approved for a 3-year ATO or OA, until the risk is mitigated.	SI-2 Flaw Remediation
4	**EOL Software:** The continued usage of End of Life (EOL) Software requires a risk evaluation to be performed by the OCISO. An EOL Software usage justification to include POA&M tracking requirements or an approved Acceptance of Risk (AOR), are the possible documentation outcome requirements of the risk evaluation. If an assessment identifies EOL software usage has not been properly evaluated and documented, then the system will not be approved for a 3-year ATO or OA, until completed.	SA-22 Unsupported System Components

#	Showstopper Description	Control Reference
5	System Architecture has been reviewed and approved by ISE: CIO-IT Security-19-95, "Security Engineering Architectural Reviews" identifies the OCISO Security Engineering (ISE) system evaluation requirements. If an assessment identifies an ISE system review has not been completed for the system, then the system will not be approved for a 3-year ATO or OA, until one is completed.	PL-8 Security and Privacy Architecture SA-8 Security and Privacy Engineering Principles
6	Integration with GSA's Security Stack (Internal Systems): System integration includes; • Sending logs to GSA's central Enterprise Logging Platform (ELP) to support information system monitoring. • Using GSA's configuration setting monitoring tools (BigFix, MasS360). • Installing GSA's tool for whitelisting/blacklisting and restricting user installation of software (Bit9). • Using GSA's scanning tools to identify vulnerabilities (e.g., Tenable Security Center (TSC), NetSparker). • Using GSA's antivirus and malicious code protection tools (e.g., Cylance AV, FireEye). • Using GSA's inventory management tools (e.g., BigFix, ServiceNow, Forescout/SecureConnector, MaaS260) to monitor assets. **Note:** Tools referenced above relate to GSA's internal infrastructure and systems those tools can be integrated with; GSA cloud environments (e.g., FCS, GRACE) may vary. If an assessment identifies the system has not been integrated with the GSA Security Stack (based upon the specific system requirements), then the system will not be approved for a 3-year ATO or OA, until the deployment requirements have been completed.	Additional details on GSA's security stack can be found in this Google Sheet. GSA ISCM Enterprise Security Management Tools
7	Encryption of Sensitive Data (i.e., PII, PCI, Authenticators): **Systems that process Personally Identifiable Information (PII), Payment Card Industry (PCI) data, Authenticators (e.g., passwords, tokens, keys, certificates, hashes, etc.), and other sensitive data as determined by the AO, shall encrypt that data everywhere (i.e., at file level, database level, at rest, and in transit. For databases, encryption of the whole database, table, column, or field levels is acceptable, as appropriate. Other methods including, but not limited to, application encryption or tokenization is also acceptable. For web services connections, implement end to end encryption terminating the connection at the web server; connections terminated at a load balancer shall employ re-encryption techniques to ensure end to end encryption.** If an assessment identifies the system has not addressed data encryption based upon the specific system's data protection requirements, then the system will not be approved for a 3-year ATO or OA, until the deployment requirements have	SC-8 Transmission Confidentiality and Integrity SC-8(1) Transmission Confidentiality and Integrity | Cryptographic Protection SC-28 Protection of Information at Rest SC-28 (1) Protection of Information at Rest | Cryptographic Protection

#	Showstopper Description	Control Reference
	been completed. Encryption algorithms and modules shall be FIPS 140-2/140-3[4], "*Security Requirements for Cryptographic Modules*," validated. o Digital signature encryption algorithms o Block cypher encryption algorithms o Secure hashing algorithms For web services connections, implement end to end encryption terminating the connection at the web server; connections terminated at a load balancer shall employ re-encryption techniques to ensure end to end encryption. Internet accessible Websites shall implement HTTPS Only with HTTP Strict Transport Security (HSTS), have no weak ciphers, have no weak protocols, and preload .gov domains. (see Binding Operational Directive (BOD) 18-01, Enhance Email and Web Security). SSL/TLS implementations shall align with GSA IT Security Procedural Guide 14-69, "*SSL/TLS Implementation.*"	

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[4]   NIST has issued FIPS 140-3, FIPS 140-2 modules are still being validated and will be accepted through September 22, 2026. For additional information see the NIST cryptographic module validation program web page.